The OIL WEEKLY

10¢ A COPY

Exclusively Devoted To The Production and Transportation of Oil and Gas

February 3, 1928 **Volume 48. No. 7**

For every Tong Service

IT'S A WILSON

Wilson Tubing Tong

Wilson Rotary Tong

Wilson Casing Tong

2-Step Spring-Latch

You can standardize upon Wilson 2-Step, Spring-Latch Tongs with assurance that every tonging operation will be handled most efficiently. No other Tongs embody the adaptable 2-step lug which permits tonging of different diameters without adjustment. Wilson Tongs offer the positive Spring-Latch exclusively, and the new Rollover Lever is another big improvement in our Casing and Rotary Types. There are numerous other advantages that make these Tongs the logical preference of Operators everywhere. Carried in stock by your supply companies.

SALES REPRESENTATIVES:

Tulsa, Okla.
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Wilson Oil Tools Corp.
DISTRIBUTORS FOR
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Factory and Distributor's Office — It's a Wilson — 2301 East Vernon Ave.
Los Angeles, Calif.

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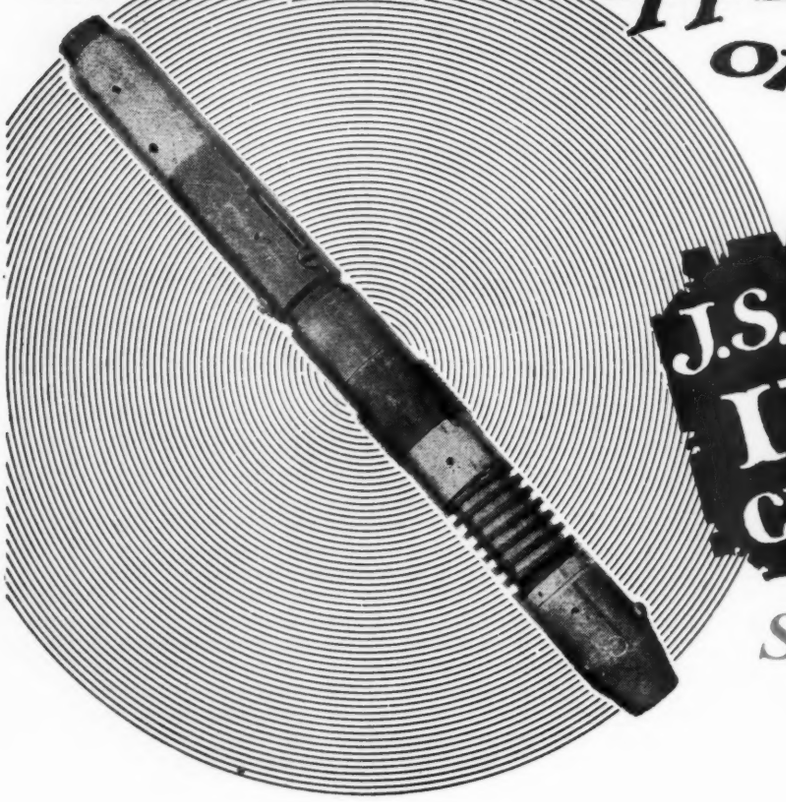
...ON ROUGE, LA.

FEB 2 1928

Trip Tool *without* going to the Bottom of the Well—
and Start Cuts at *ANY POINT*
in Casing, Liner or Screen with

The New "Tripping" Device
on the



J. S. ABERCROMBIE
INSIDE
CUTTING TOOL

Simple!
Dependable!
"Fool Proof"!

THE SPEED, the SIMPLICITY, the CERTAINTY of each cutting job with this improved cutting tool, is a surprise to every oil operator employing our services for the first time. But from then on—RESULTS prove more convincing than ANY advertisement. Our IMMEDIATE service coupled with the EFFICIENCY of the tool SAVES both time and money.

Wire Us *TODAY*—and we'll *Be There* Tomorrow

J. S. ABERCROMBIE Co.
616-18 West Bldg. Houston, Texas

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

Built for Day and Night SERVICE

GASOS are the sort of pumps the experienced superintendent vows he'd build if he were building 'em himself. Users tell us they have an amazing habit of working 24 hours a day, week after week and year after year with practically no attention.

Of course there is a reason for this service. It's based on design and supported by the finest materials and craftsmanship we can buy.

That explains also why our company is the fastest-growing manufacturer of oil-industry pumps in the business. Have you our catalogue?

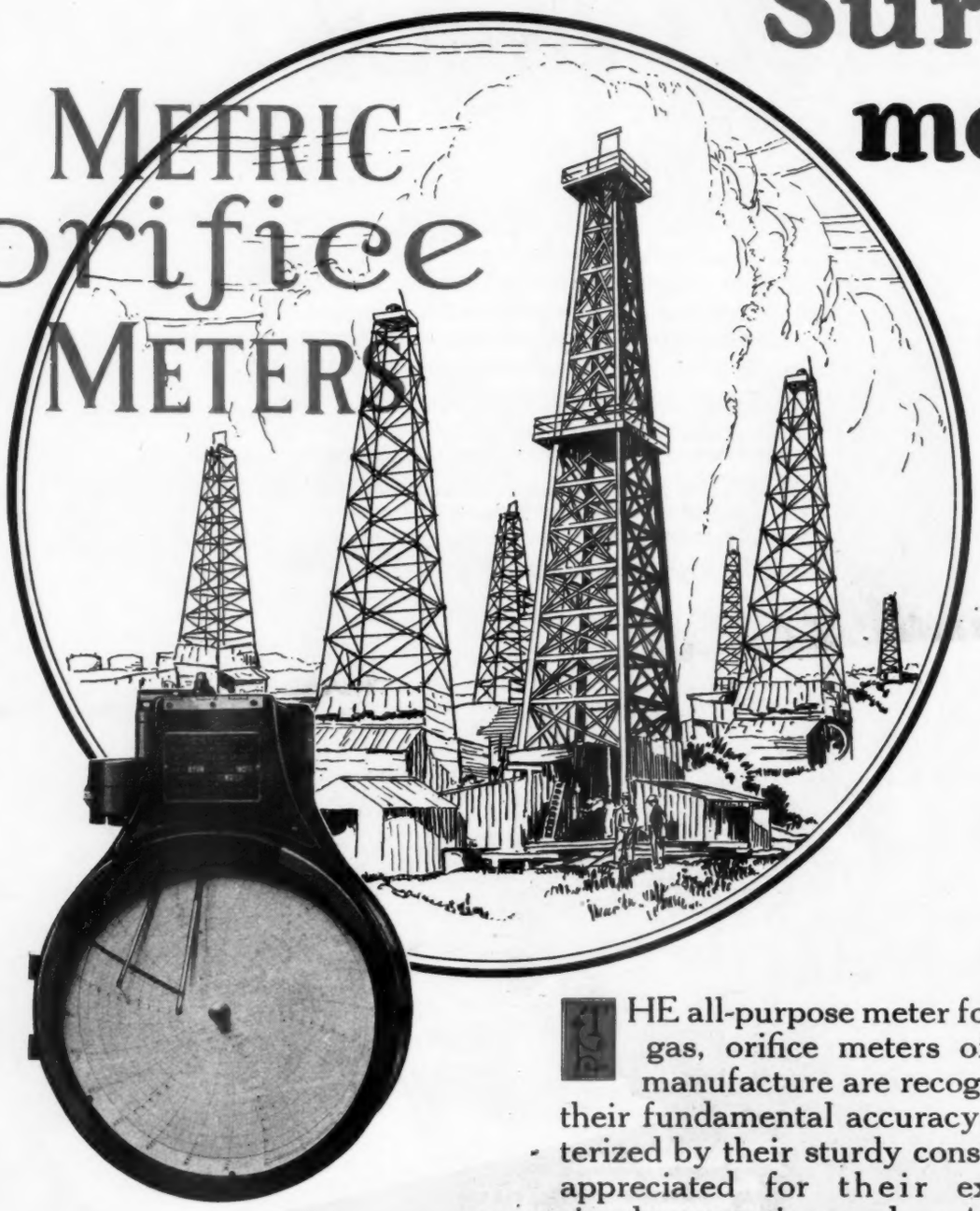
GASO PUMP & BURNER MANUFACTURING CO.
TULSA, OKLAHOMA

12-in. discharge pump; *Biggest ever built in Midcontinent.*

GASO PUMPS
for every oil industry need

They Sure put Sure in mea-Sure-ment

METRIC orifice METERS



THE all-purpose meter for oil and gas, orifice meters of Metric manufacture are recognized by their fundamental accuracy, characterized by their sturdy construction, appreciated for their extremely simple operation and maintenance and bought by the thousands for their well known reliability.

WESTCOTT & GREIS, Inc.

Sales Service

DALLAS TULSA LOS ANGELES

METRIC METAL WORKS

of the American Meter Company-Inc.

-ERIE-PENNSYLVANIA-U-S-A-

Say you saw it in The OIL WEEKLY

Say you saw it in The OIL WEEKLY

"WILDCAT TAMERS AT PARADE REST"

The photo shows 4 Texas-Pacific Oil Company CLARK Drilling Engines at McCamey, Texas, waiting for more work. Most of the wells in this field were drilled with Clarks.

CLARK Drilling Engines are called "wildcat tamers" because they furnish ideal drilling power on wildcat operations where transportation is difficult, water is hard to get, economy is imperative and time is precious.

The CLARK Drilling Engine is lighter than a steam rig and is readily moved on its own truck. It gives a perfect drilling motion and furnishes ample power for the largest and deepest wells. Fuel consumption is a small fraction of that of a steam engine. Practically no water is used. Time is saved as there is no waiting for steam, and maximum power and speed can be maintained indefinitely. Investigate the remarkable economy and efficiency of Clarks.

CLARK BROS. COMPANY
OLEAN, N. Y.
Branch and Warehouse: 125 W. First St., Tulsa.
Warehouses at McCamey and Sweetwater, Texas, and Artesia, N. M.

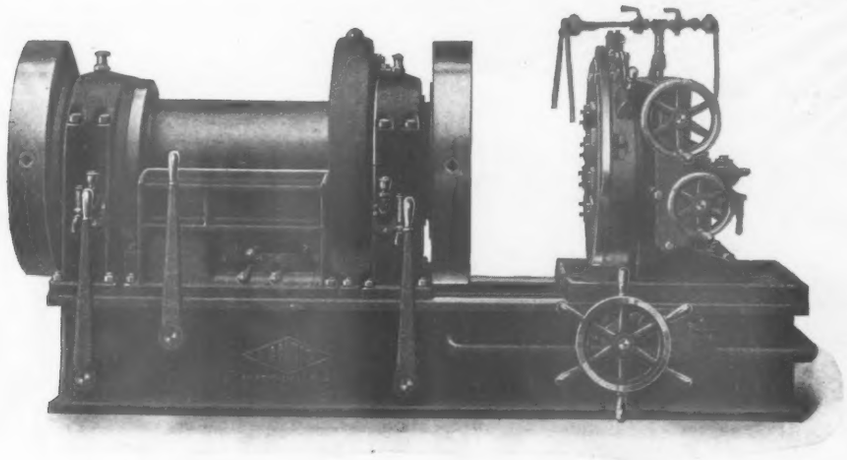
California:
SMITH BOOTH USHER CO.
228 S. Central Ave., Los Angeles, and 50 Tremont St., San Francisco

Clark Bros. Co. OLEAN, N.Y.

CLARK

Say you saw it in The OIL WEEKLY

The Ideal Combination—



The Landis Pipe Machine with the Landis Head

The new Line of Landis Pipe Threading and Cutting Off Machines was designed to support the Landis Die Head in the proper manner and to obtain the maximum efficiency with the Landis Head and Chaser.

The machine is equipped with a gear box and single pulley drive. To insure full power and to eliminate break-downs, the gears are cut from steel and run in an oil bath. The main shafts have bronze bushings and lubricant is forced fed to the bearings.

For making up or breaking flanges, a reverse is incorpoarted in the gear box and controlled by a lever located conveniently for the operator. The machine may be reversed in an instant without crossing the belt or throwing a switch.

The Landis Head slides in the cross rail. This permits the die to line up with the pipe and means full threads around the pipe.

The reaming tool is locked for the reaming and chamfering operations. There is no chatter, but instead a smooth even finish is obtained on the ends of the pipe or casing.

Other outstanding features make the Landis Pipe Machine far in advance of any other.

Therefore to reap the full benefits of the Landis Head and long life chaser, install the complete Landis Pipe Threading and Cutting Machine.

Write us today and specify the size of machine you want. We will give you the entire story of its design.

LANDIS MACHINE COMPANY

Waynesboro, Penna.

Detroit Office: 5928 Second Blvd.

LANDIS TRADE MARK

LANDIS TRADE MARK

Always efficient—
always reliable for any
kind of Drilling
Operations!
TITUSVILLE TWIN
CYLINDER ENGINES
Here is an engine that gets every ounce of power out of every pound of steam you give it assuring you a steady, unfailing supply of power under all conditions of oil field service.
From every viewpoint the Acme Twin Cylinder Engine is a masterpiece of design and construction—the result of many years of experience and accumulated improvement.
Ask your Continental Man to show you the advantages of this dependable steam unit.

The TITUSVILLE IRON WORKS Co.
TITUSVILLE - PENNA.

Titusville
Acme Boilers
Single and Twin
Steam Drilling Engines
Tico Gas Engines
Band Wheel and
Geared Powers

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615 Roosevelt Bldg.,
Los Angeles, Calif.

Titusville
Acme Rotaries
Acme Swivels
and Speed Draw Works
High Pressure Boilers
Crown Blocks
Slush Pumps

RUGGED - ENDURING

Helping the Man in the Field

. . . with 17 Years Experience

THE MAN IN THE FIELD is the man who can appreciate such service as can be had at *Norvell Wilder's* . . . . a large stock on hand so that there is no waiting when a tool or machine is needed quickly . . . . delivery that can be depended upon . . . . dealing with representatives who are experienced oil men, who realize the importance of a *rush order* and who will not rest until it is filled.

It means SAVING MONEY for the Producer. It many times means the bringing in of a well ahead of competitors. IT OFTEN MEANS THE SAVING OF THE WELL.

Every Standard, Reliable Machine and Tool Needed for the Oil Field

NORVELL WILDER HARDWARE CO. — QUALITY AND SERVICE

NORVELL WILDER HARDWARE CO.

BEAUMONT HOUSTON SHREVEPORT FT. WORTH

ACCURACY

Insured by scientific precision in design and construction

During the world war the operations of bombing planes, artillery and infantry were timed to the zero hour with synchronized watches.

The operation of the Zero Hour Electric Bomb is likewise timed by a dependable watch. In every other detail the Zero Hour Bomb is scientifically correct according to the best ideas of experienced engineers.

The Zero Hour Electric Bomb is so designed that it cannot explode until the hour hand of its sturdy and reliable watch reaches the gold firing pin at the "zero hour." There is no conceivable way in which this hour hand can be caused to reach the zero hour greatly ahead of scheduled time. Jarring cannot cause the bomb to explode. When enclosed in its protective cast iron shell, its dependable operation is not affected by fluid pressure, heat or magnetic influence.

Scientific precision in design and construction render the Zero Hour Electric Bomb SAFE for men and property, and CERTAIN to put off the shot without waste of time or money.

Modern operators realize that it is sound policy to protect costly wells during shooting by using the safest and most certain detonator available. Major operators have learned to depend on the Zero Hour Electric Bomb for this protection.

ZERO HOUR TORPEDO CO.

408 Cosden Bldg., Tulsa, Oklahoma.

Day Phone: 2-9612. Night Phones: 3-1775, 3-7650, 2-6097

BORGER, TEXAS
Howard Culp,
Phone 254, P. O. Box 411

SEMINOLE, OKLA.
George Pascoe,
Phone 410, 518 Second St.

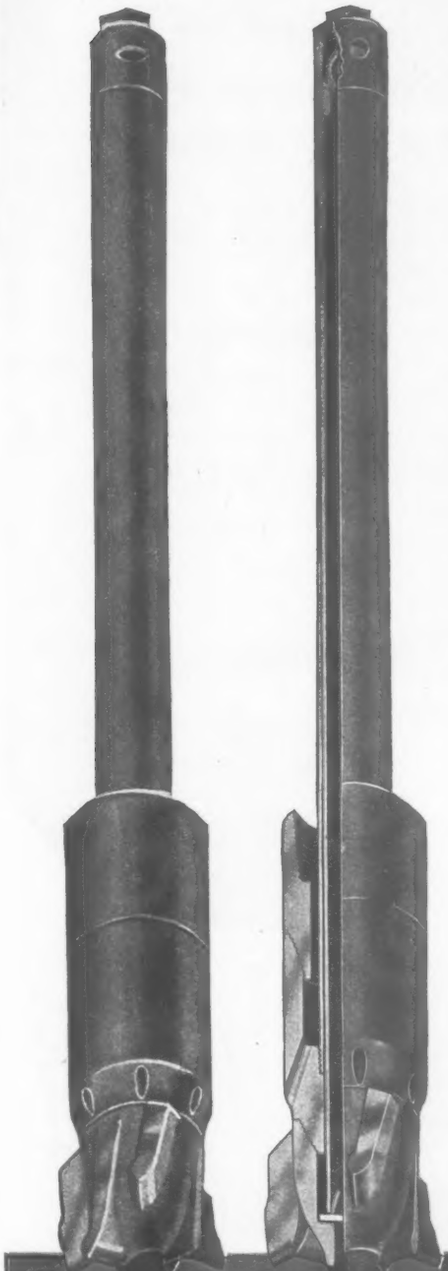
SPECIAL 22-HOUR TYPE *has a setting range of 12 to 22 hours;* STANDARD TYPE *has a setting range of 1 to 11 hours. Both types are furnished with either 3¼" O. D. cast iron shell, or with 2½" O. D. seamless tubing steel shell with cast iron cap. The Zero Hour Electric Bomb can be secured through all principal torpedo companies.*

Zero Hour
Electric Bomb

Say you saw it in The OIL WEEKLY

The PERFECTION Core Barrel

Dependable!



Inner Barrel washed clean when you have reached coring zone.

No contaminated cores even though you drill through bridges before reaching bottom of well.

No difficulties in removing core from barrel—Screw off bit head and pull split liner containing core from inner barrel.

The Rotary Core Barrel That Has No Equal

Five sizes of barrels.
Cutter heads 4¼ to 14″.

Write for prices and pamphlets.

OKLAHOMA OFFICE:
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DISTRIBUTORS:
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Hercules Supply Co., Vernon, Texas

EXPORTERS:
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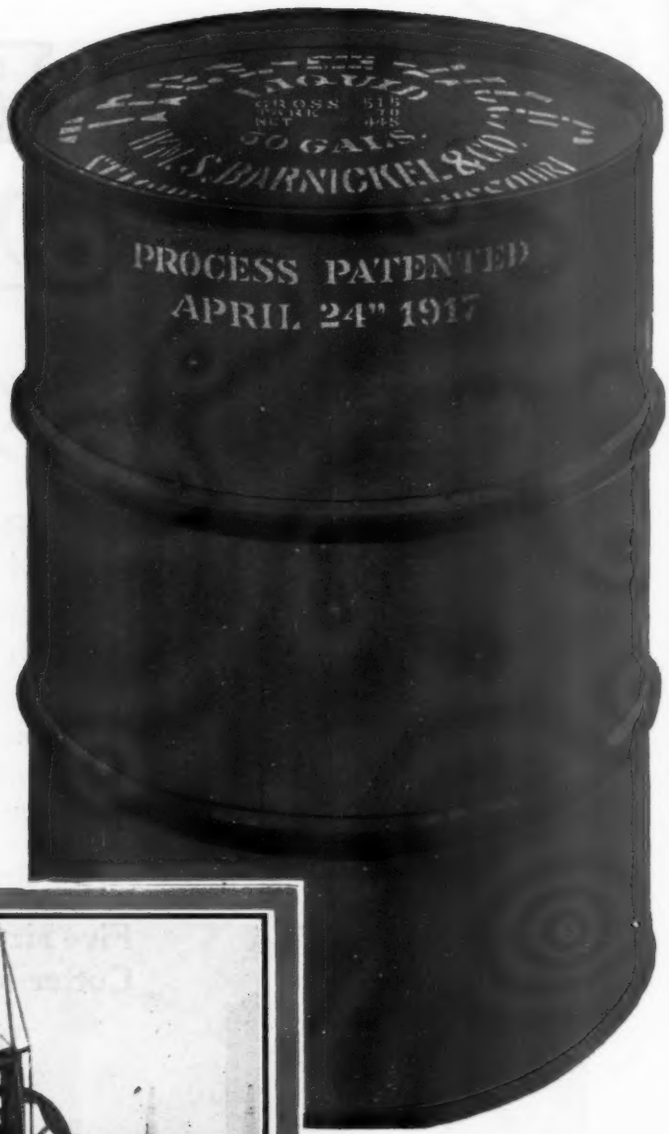
74 Trinity Place,
New York City

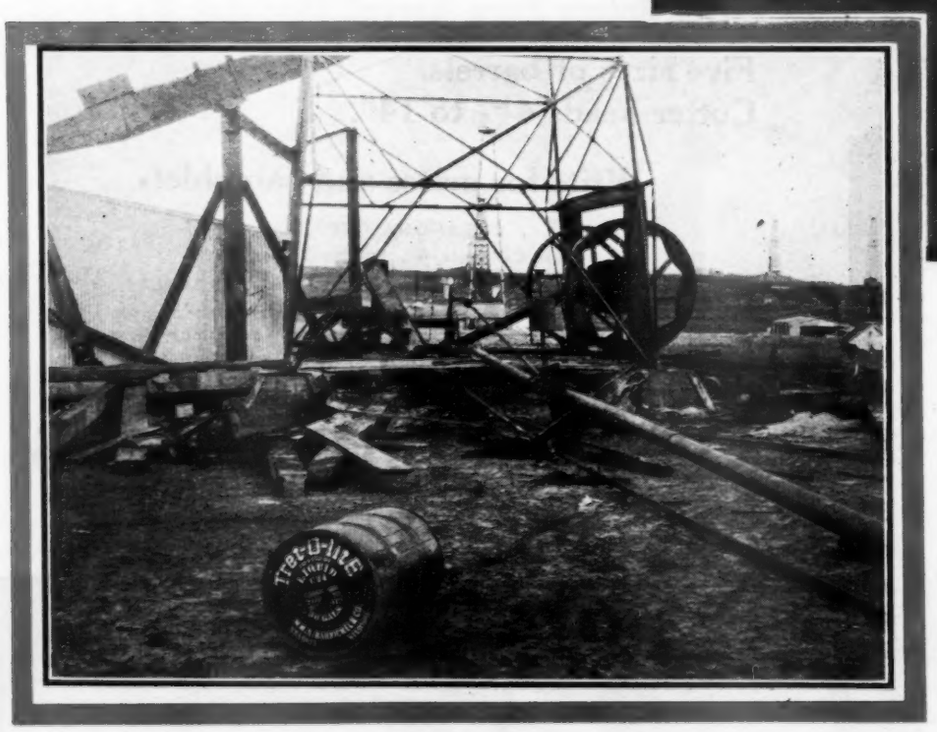
OIL CITY IRON WORKS
SHREVEPORT, LA.

We have skilled experts in every district

Wm. S. Barnickel & Company

ST. LOUIS, MO.
Offices and Plant: Webster Groves,
St. Louis County, Mo.





Process Patented

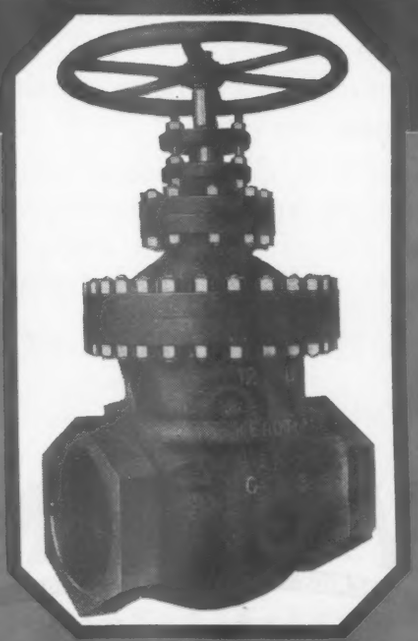
Photograph shows Tret-O-litE on hand at Magnolia's Sullivan No. 3, Earlsboro Oklahoma.

Tret-O-litE

Say you saw it in The OIL WEEKLY

Kerotests are the oil man's first line of defense. In the photograph above you see a typical installation of the trusty Kerotest down under the drilling floor covered with oil and grime but ready to meet any emergency.

And here's how — Every Kerotest Heavy Duty Drilling Valve is subjected to the famous Kerosene Test for 24 hours, then certified by the Pittsburgh Testing Laboratory to withstand a pressure of 3000 pounds. This certificate of inspection accompanies every Kerotest sold in the oil fields.



Thus in Kerotest you get not merely a blind guarantee of quality but a tried and proven valve that has actually demonstrated its dependability before you use it. Kerotests have never been known to fail in an emergency.

Why not specify Kerotest — it's safer

KEROTESTS STAND THE GAFF OF HARD USAGE

KEROTEST

KEROTEST MANUFACTURING COMPANY
Pittsburgh Penna.

Manufacturers of Drilling Valves, Refinery Valves, Flow Line Valves and Heavy Duty Fittings for oil fields.

Carried in Stock and Sold by

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KEROTEST

GOOD WRENCHES

BY THE MAKERS OF THE FAMOUS "VULCAN" TONGS

Williams' Superior *Carbon Steel* Wrenches are exceptionally **good** wrenches. Long use in a score of industries has proven this.

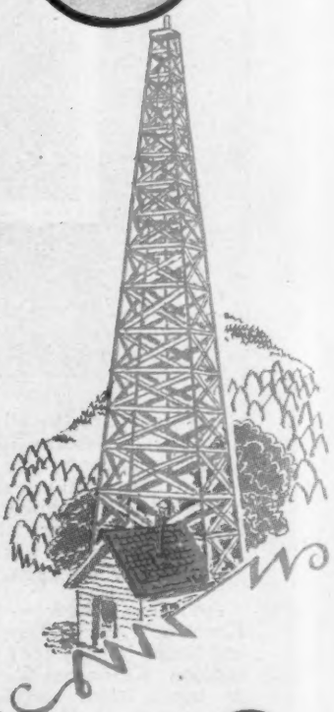
More, they are manufactured by the makers of the famous "Vulcan" Tongs, proof-positive of the finest service.

You'll find Williams' Superior Wrenches in a wide variety of patterns and sizes to fit every need. Quality guaranteed. Literature?

J. H. WILLIAMS & CO.

"The Wrench People"

New York BUFFALO Chicago



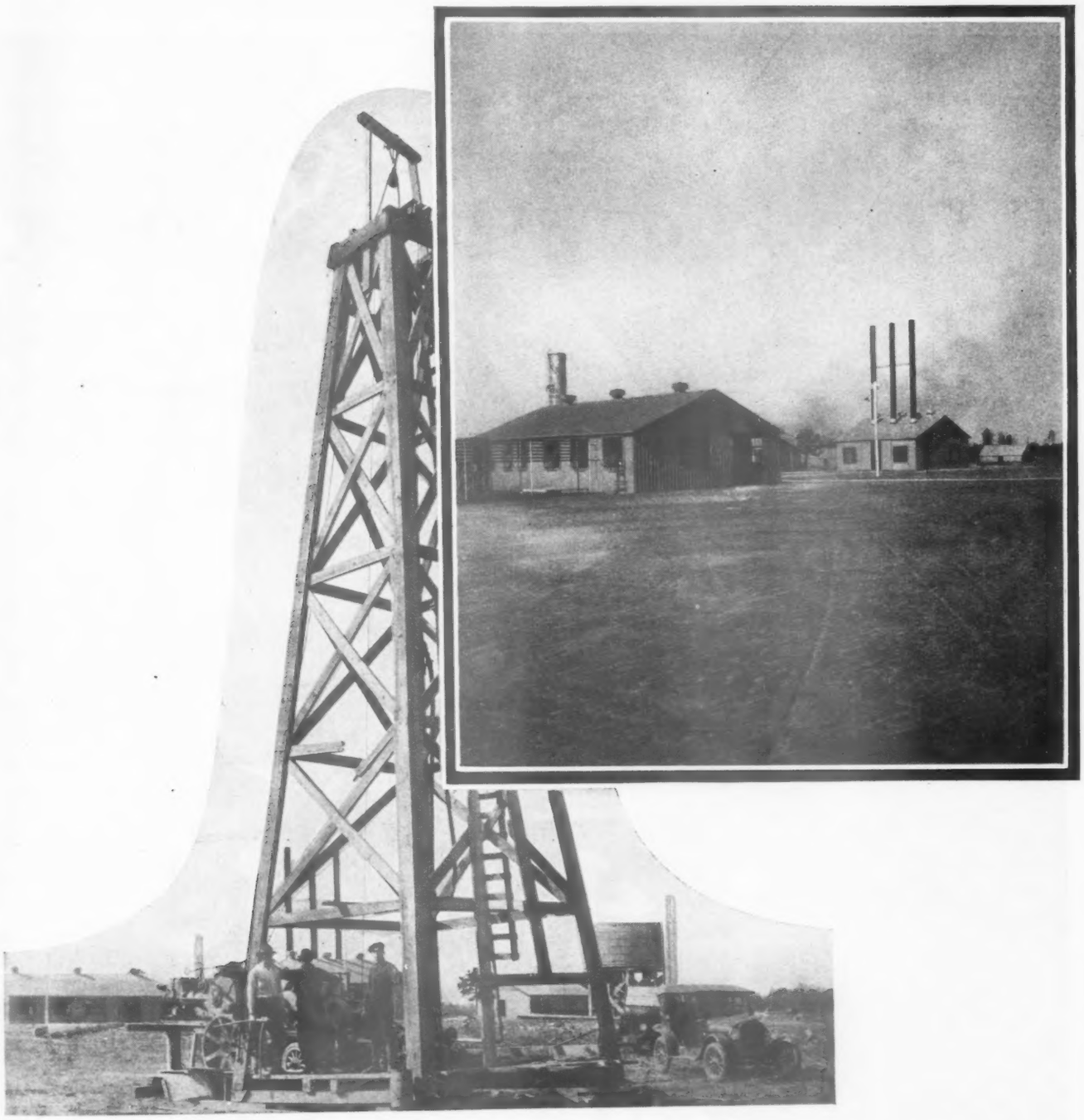
Structural Pattern

WILLIAMS

SUPERIOR DROP-FORGED TOOLS

SUPERIOR DROP-FORGED WRENCHES

Construction Pattern



When Oil Gushes—

Right in the field—right at the well—Butler *Ready-Made* Steel Buildings are giving service. As a boiler house, compressor house, warehouse and as other oil field structures Butler Buildings are reliable.

The buildings shown above are at Greenwood, Caddo Parish, La.

Butler *Ready-Made* Steel Buildings are constructed of 24 gage galvanized steel with deeply drawn paneled corrugations.

Prices are quoted f.o.b. plant or erected. Write for illustrated catalog and prices.

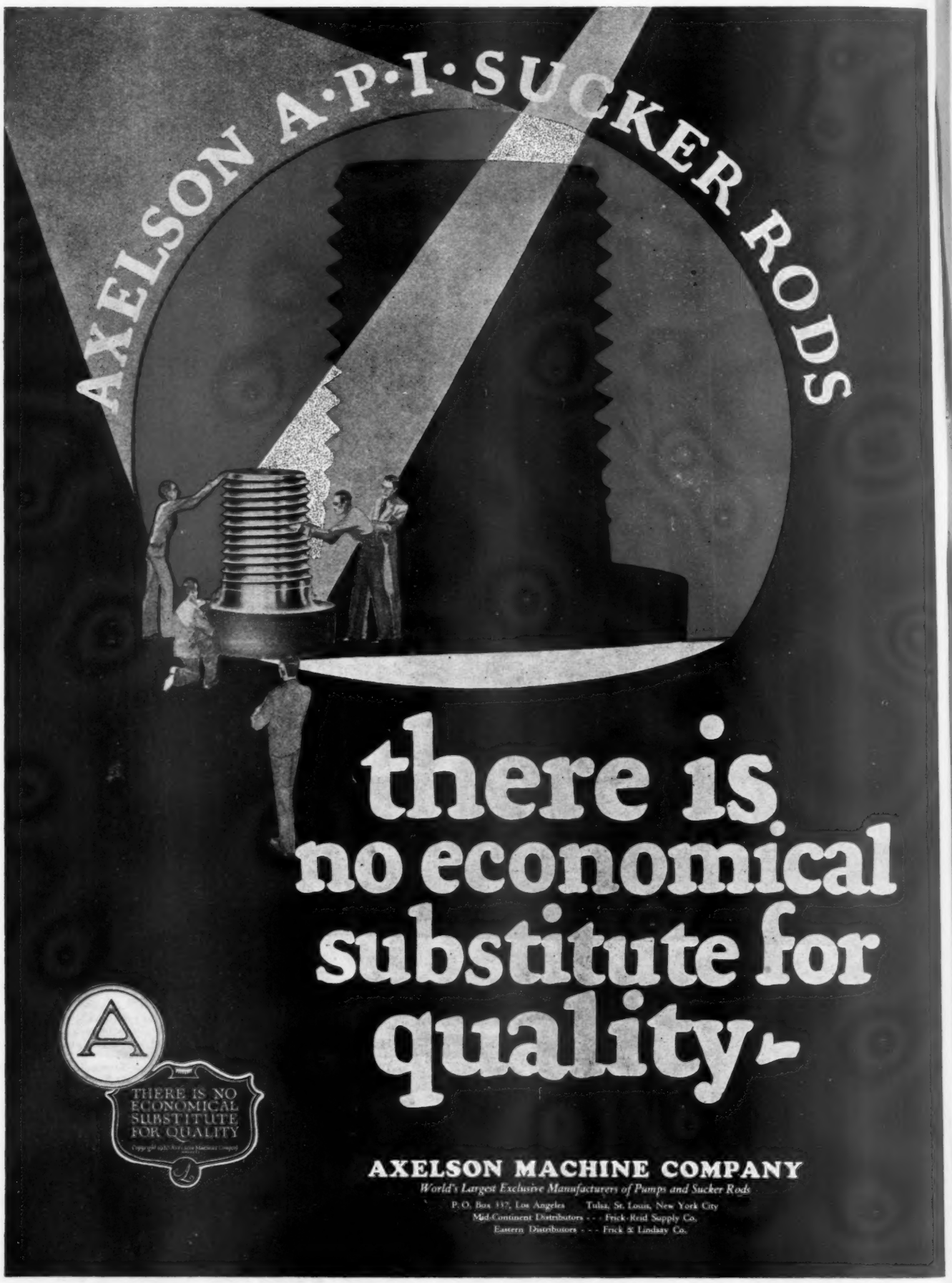
Butler Products include: READY-MADE Steel Buildings, Cans, Funnels, Buckets, Measuring Pumps, Truck Tanks, Underground Tanks, Storage Tanks, Bolted Tanks, etc., and pipe that can be used as conduit, double well casing or in other ways.

These reliable dealers handle Butler *Ready-Made* Steel Buildings:

M & V Tank Co., at Wichita Falls, Olney, Nocona, Cross Plains, Albany, Cisco, Isom, Pampa and Brownwood, Texas.
Drane-Humphrey Co., at San Angelo, Big Lake and McCamey, Texas, and Carlsbad, New Mexico.
Drane Tank Co., at Tulsa, Holdenville, Seminole, Hallett and Shawnee, Oklahoma; Eldorado and Madison, Kansas.
M. A. Trimmer at Blackwell, Oklahoma.
Edward J. Baker & Co., at 10 S. LaSalle St., Chicago, Ill.
Keyes-Butler Tank Co., at Casper and Cody, Wyo.
Thomas Moran at Oil City, Shreveport and Georgetown, La.

TRADE STEEL BUTLER PRODUCTS MARK

Butler Manufacturing Co.
Kansas City, Mo. Minneapolis, Minn.
New York Office: Room 701, 44 Whitehall St.


AXELSON A·P·I·SUCKER RODS
there is no economical substitute for quality-
A
THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY
AXELSON MACHINE COMPANY
World's Largest Exclusive Manufacturers of Pumps and Sucker Rods
P. O. Box 337, Los Angeles Tulsa, St. Louis, New York City
Mid-Continent Distributors - - - Frick-Reid Supply Co.
Eastern Distributors - - - Frick & Lindsay Co.

Say you saw it in The OIL WEEKLY

Feature No. 10

Regan's *New* Crown Block

Alemite lubrication

Write for pamphlet which describes the many features and illustrates the improved way of stringing up a Crown Block.

New Method of Lubricating Line

Provision has been made for lubricating the wire line operating through the Regan Crown Block. This is the last word in lubrication and in combination with inherent advantages of the Block, results in greatly lengthening the life of the wire line.

The individual bearings of each sheave are lubricated by the Alemite System.

Feature No. 1
No Side-Drag on Wire Line

Feature No. 2
Lines Flare in Proper Direction

Feature No. 3
Large Sheaves Reduce Bending

Feature No. 4
Wire Line Slippage Reduced

Feature No. 5
Speed

Feature No. 6
Crown Sheave Over Dead Center

Feature No. 7
Keeps Traveling Block Centered

Feature No. 8
Equalized Load on Derrick

Feature No. 9
Hazards Eliminated

Regan
Forge & Engineering Co.
Manufacturers of Oil Well Equipment
San Pedro, California U.S.A.

Houston, Texas
1521 Post-Dispatch Bldg.

Oklahoma City, Okla.
531 W. Main St.

New York City
75 West St.
Wm. Braat, Manager

Maracaibo, Venezuela
Wm. Adams,
c/o Amer. Consul

Odessa, Texas
Pampa, Texas

PORTLAND CEMENT *PREVENTS RUST!*

TNEMEC PAINT has a *PORTLAND CEMENT* base

PORTLAND CEMENT has long been recognized by chemists and engineers as probably the greatest of all rust preventatives. The best evidence of this has been afforded in the instance of steel bars used as reinforcing in concrete. Clean bars used for this purpose remain without rusting indefinitely, and even if the metal has already begun to show rust, the corrosion is halted and the rust already formed is absorbed by the cement.

TNEMEC PAINT—composed of pure linseed oil, into which Portland Cement is introduced, by a patented process—possesses all of the virtues of Portland Cement as a protector of iron and steel. It furnishes a complete, tough "coat of cement" which not only prevents the rusting of new metal, but promptly halts the rusting action on surfaces already coated with incipient rust. TNEMEC applies easily with brush or spray, covers well, and is exceptionally durable.

Why not give your steel structures this positive protection? TNEMEC Paint is carried in stock at all Continental Stores.

"If CONTINENTAL Sells It, There Is No Better"

THE CONTINENTAL SUPPLY COMPANY
General Offices: St. Louis
Export Office: 74 Trinity Court, New York
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THE CONTINENTAL SUPPLY COMPANY, LTD.
69 Thomas Block, Calgary, Alberta, Canada

CONTINENTAL

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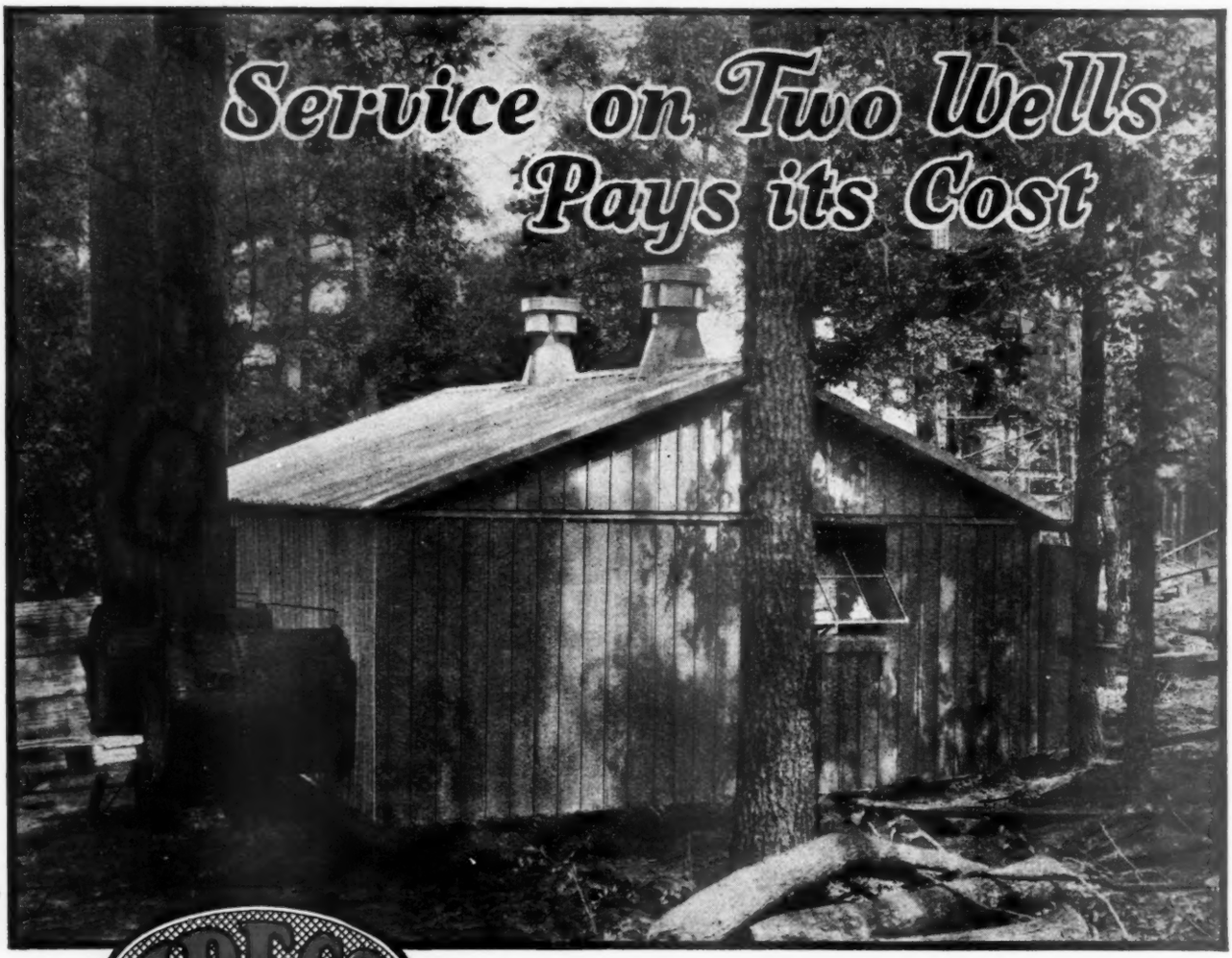

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The OIL WEEKLY

Edited Weekly at Houston, Texas SPENCER W. ROBINSON, Editor

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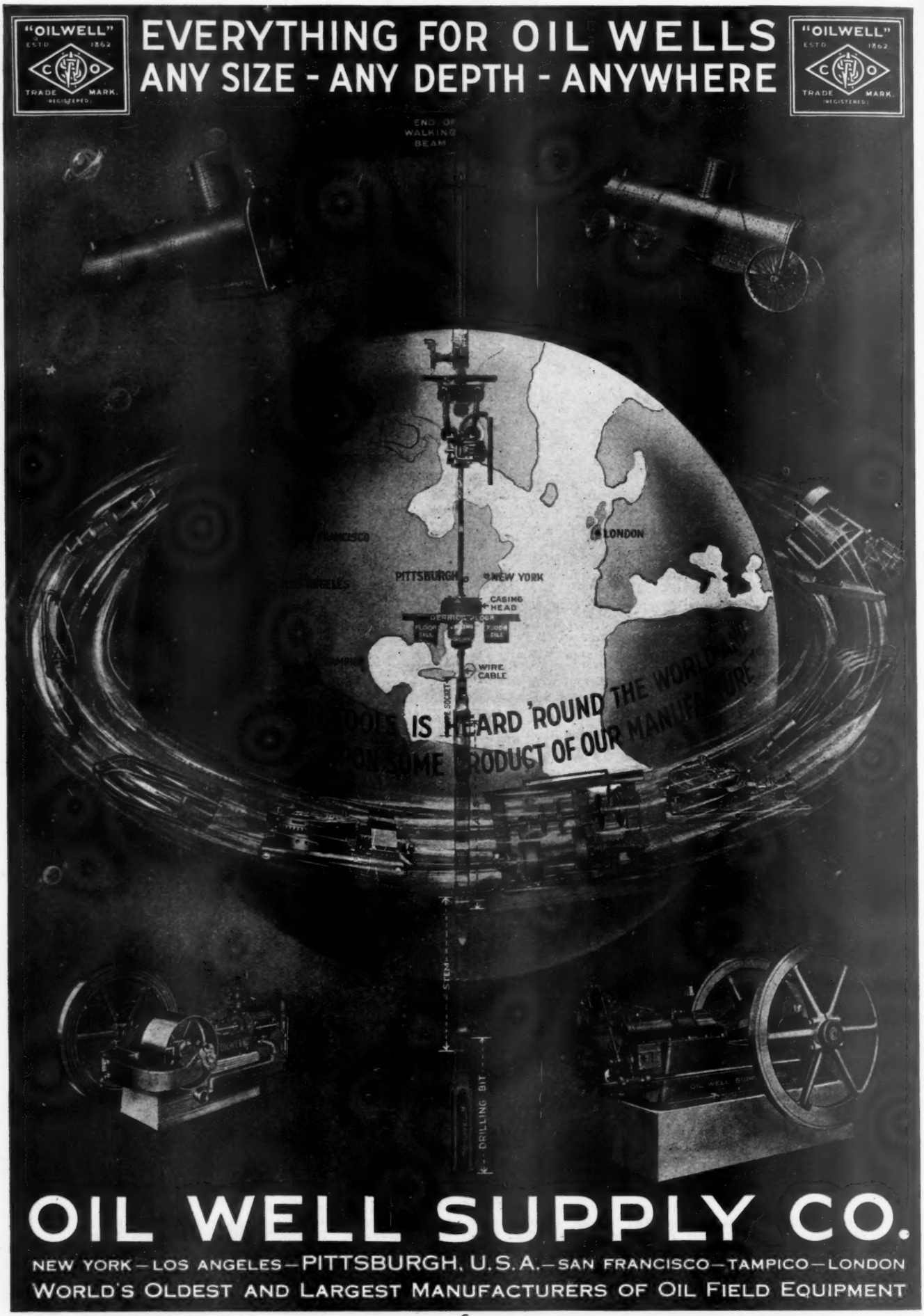


Say you saw it in The OIL WEEKLY

Crude Production Decline Is General

By KENT RIDLEY

A DECLINE of 25,650 barrels in the estimated daily average production of United States fields as given by the American Petroleum Institute compilation of estimates for the week ending January 28, more than offsets the slight gain recorded for the previous week and brings the average rate of decline for the month to the figure set during the first week of the year.

The decline also brings production to the lowest point recorded since the middle of November, 1926.

The estimate for the week gives a total of 2,355,250 barrels per day, as compared with 2,380,900 barrels for the previous week.

Gains of 2200 barrels in Kansas and 350 and 50 barrels, respectively, in North Louisiana and Arkansas, set those districts apart from the rest of the country where every other district was losing.

The Oxford pool in Kansas, which is for the first time given the dignity of separation from "others," is largely responsible for the rise in that State, as comparison of the total for Oxford and "others" with "others" a week ago, shows a difference of 2300 barrels. The usual fluctuations up and down occurred in other fields of Kansas. The changes in Arkansas and North Louisiana are negligible.

Oklahoma's decline was 6700 barrels, more than half of which comes from the Seminole area. The Earlsboro pool was down 5050 barrels, Bowlegs and Searight were down slightly, while Seminole and Little River were up enough to bring the total for the district down 4750 barrels. No important changes were recorded in other fields in Oklahoma, except that the trend is generally downward, and that with favorable weather conditions obtaining.

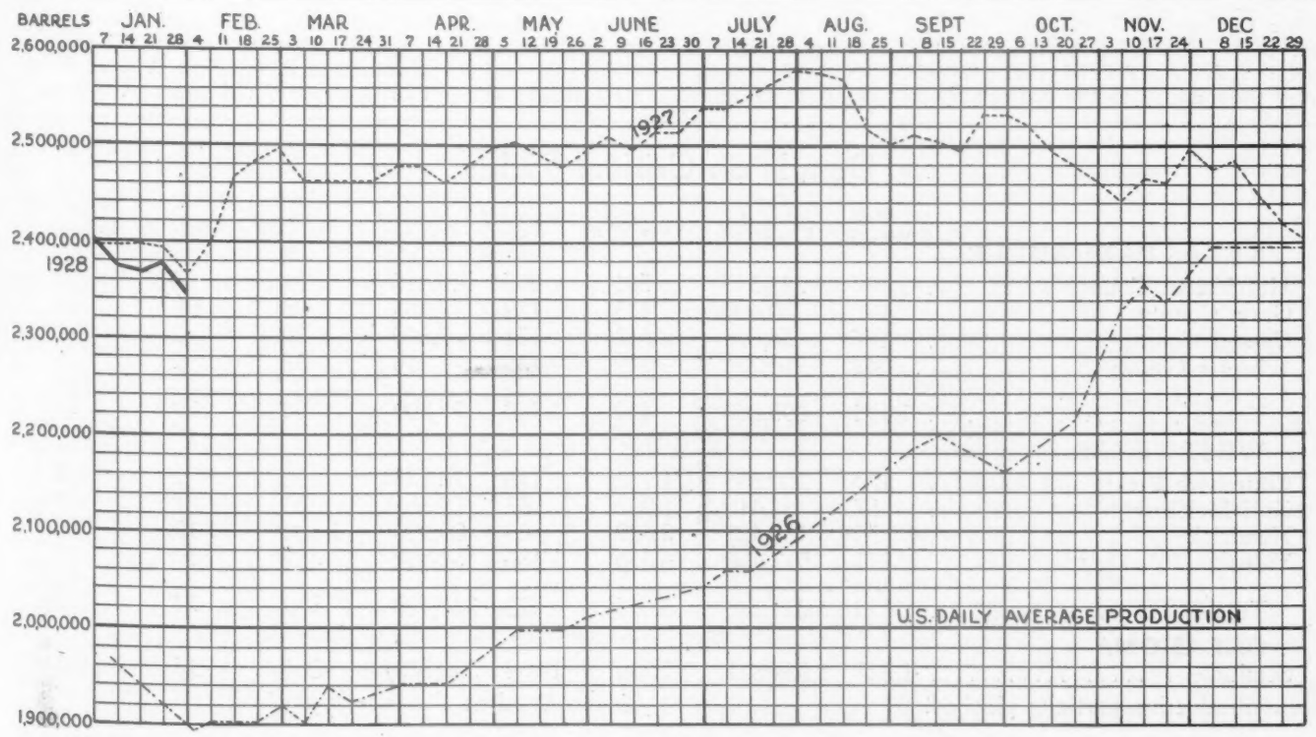
The decline in Texas was 11,500 barrels, West Texas being the principal contributor to a situation which was general over the State. West Texas was down 4200 barrels, a total arrived at after Crane-Upton Counties had shown a loss of around 10,000 barrels and Pecos and Winkler Counties had shown gains.

The Eastern district shows a loss of 1250 barrels, the most important change in that quarter in a number of weeks.

In the Rocky Mountain States the loss was 6100 barrels, the biggest change there in several weeks, the principal change being in Wyoming, where the Salt Creek field declined from 44,150 to 37,800 barrels daily.

California was down 3300 barrels, Ventura Avenue recording a thousand barrel loss and the rest coming from the smaller fields.

UNITED STATES CRUDE PRODUCTION TREND



Details of United States Production Estimates, Page 61

Bulk of New Production From Wells In West Texas

Eleven completions in Yates field have combined initial of 66,000 barrels, while Oklahoma and California wells are small

By JACK LOGAN
Staff Representative

ALTHOUGH the total number of wells completed in the field was only 11, the Yates pool of West Texas was the source of over two-thirds of the gross amount of new oil in the United States during the past week. These 11 wells of the shallow Pecos County field had a combined initial production of a little more than 66,000 barrels, or an average of 6000 barrels each.

The largest among them was Simms Oil Company's Smith 4, which came in for 24,000 barrels; and the next largest was Humble Oil & Refining Company's Smith 6, a 14,000-barrel well. The joint interests of Mid-Kansas Oil & Gas Company and Transcontinental Oil Company brought in five wells in the field, ranging in initial from 100 to 7500 barrels. Gulf Production Company completed two producers in the area, the Smith 6 and Smith 7, which had initials of 5400 and 4080 barrels, respectively.

Two comparatively large wells were completed in the Hendrick field, Winkler County; and three small ones were finished in Crane County; running the total amount of new oil in West Texas for the week to approximately 70,000 barrels.

Completions of new wells in all other sections of Texas had none of the color of the completions in the western fields. All of the new oil from them added to the 70,000 barrels of West Texas increased the State's total only to about 81,500 barrels. In the Gulf Coast section, only seven producers were completed, their average size, however, being relatively high, as they had a combined initial yield of nearly 6000 barrels. Gray County in the Panhandle furnished two good wells, one a 3200-barrel producer, and the other a 1000-barrel well.

The total number of tests completed in Texas during the week was 121, including 10 gas wells, 44 failures, and 67 producers of a combined initial production of about 81,500 barrels. During the previous week there were 125 completions, among which there were 15 gassers, 37 failures, and 73 oil wells that furnished about 104,000 barrels of new oil. For each week the average amount initial production per well was considerably more than 1000 barrels, due to the huge producers in West Texas.

Oklahoma

Only 14 wells were completed in Oklahoma during the week. They had a combined initial production of 6650 barrels, the average size of the wells thus being larger than those completed the previous week, when 29 producers furnished only 8416 barrels of new oil. These figures are interesting as compared with corresponding ones last summer, when Seminole had its high fever of activity. During the week ending July 16, 1927, for instance, Oklahoma had 40 new producers that had a combined initial production of 54,000 barrels. During the same week the total amount of new oil for the entire State of Texas was 20,000 barrels, as compared with the 81,500 barrels of the past week.

Only four tests were completed during the past week in Seminole County, one being a 2700-barrel well, while each of the other three had less than 300 barrels initial production.

In addition to the 14 producers, 40 other tests were completed in Oklahoma during the week, 12 being gas wells, while the other 28 were failures.

California Wells Small

As in Oklahoma, 14 producing oil wells were completed in California during the week. Their combined initial yield was 5600 barrels, the wells being somewhat smaller than those completed the previous week, when 13 came in for 8550 barrels.

Long Beach led in quantity of new oil, two wells in that field coming in for 1200 barrels each. Seal Beach ranked second, through the completion of a 1400-barrel well by the Associated Oil Company and two small wells. Outside of the above three large wells, the initial production of none of the new California wells was more than 300 barrels. There are two new oil wells at Huntington Beach, four at Kern Front, two at Rincon, and one at Ventura.

Details on Critical Fields

	Oil Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Production Per Well	Rigs Up	Wells Drilling
TEXAS PANHANDLE—								
Hutchinson County	1,087	543,555	501	975	49,415	51	6	20
Gray County	187	79,400	425	179	17,465	98	19	56
Carson County	177	58,695	332	151	7,540	50	2	3
Wheeler County	42	14,230	339	35	1,280	37	2	10
Totals	1,493	695,880	466	1,340	75,700	56	29	89
WEST TEXAS—								
Church & Fields	179	200,885	1,122	176	70,135	398	2	5
Gulf-McElroy	57	51,410	902	57	18,385	323	1	1
Hendrick	50	166,425	3,329	60	90,000	1,500*	19	88
Yates	144	912,400	6,336	136	52,880	389*	12	34
Totals	430	1,331,120	3,096	429	231,400	539	34	128
OKLAHOMA—								
Seminole	1,227	1,534,821	1,250	1,084	330,523/	304	15	103

*Production partially pinched. /Seven Wildcat Producers pinched.

Completion Details, page 66; Permits for New Wells, page 70

Extension of Seminole Shut-Down Strengthens Market

More optimistic feeling in Mid-Continent with passing of flood threat; California stocks drawn; refined market strong in North Texas

By STAFF CORRESPONDENTS

TULSA—Decision of operators in Greater Seminole to agree on extending their shutdown program until April 1, with the possible exception of the Little River territory—it to be decided on at a later meeting of the group, is a note of optimism to the Mid-Continent market situation. It means that restrictive measures, which have gone to bring Seminole production down, will not only continue to bring it down, but will eliminate possibilities for production staging a comeback through competitive drilling at an early date around newly discovered productive spots that may mean other major fields.

Along with this decision comes a drop in the area's production of roughly 8,000 barrels in the past week. Drilling wells have decreased to 103 as compared with 112 two weeks before. Gas and air lift methods are not holding production in individual wells up to the expected point, and many pumping units are being moved in. All of these factors combined lead the average operator to give Seminole's future a lower estimate than has heretofore been made.

At the close of last week there was an average of 24,000 barrels of Seminole oil going to storage, showing a decrease in the past month of 12,000 barrels in storage runs. There is now a total of 12,292,590 barrels in storage at Seminole, with 4,529,400 barrels vacant storage and only 2,193,500 barrels of storage estimated for the near future, the latter taken from storage building, graded or on location.

It is estimated pretty generally over Oklahoma that another 25,000-barrel drop in Seminole's daily average will practically wipe out runs to storage, and believed that following the wider inauguration of the method of mixing sweet oil with West Texas and Panhandle sour oils, Seminole stocks will be drawn on for filling demand for this sweet oil supply. The project now under way by Champlin Refining Company of Enid, Oklahoma, for laying a six-inch line from Seminole to connect with its Watchorn line to Enid is seen to be an outlet for considerable Seminole crude. This, with Garber, Logan County and other western Oklahoma oils will be run at the Champlain refinery.

An activity report for Oklahoma fields compiled on January 18 shows a decrease of seven operations during the previous week. In Kansas the activity for the same dates shows an increase of 18 operations, but the chief gain is seen in the starting up of 23 locations which were shutdown on the survey of January 11.

FORT WORTH, Texas—Refiners' quotations on U. S. Motor grade gasoline in the North Texas district was firm at 6 cents per gallon early this week as a result of the recent heavy purchase made by Gulf Refining Company for delivery over 30 days. Indications are that sufficient gasoline orders are now booked by these plant owners to maintain present prices for a few weeks more, although domestic jobbers have not started their early spring buying.

The crude market situation in the West Texas district remained unchanged over the past week, with another gain in daily production registered by the Hendrick field, which averaged 1500 barrels daily per well, with 60 wells on production. This field is being developed without restrictions, and is the only source of less than posted price crude in the district. Considerable Hendrick field crude is being sold on contract at 5 and 10 cents per barrel below the flat price of 60 cents posted by the major buyers, and large quantities are still available from small producers with lines extending to tank car racks. Although the Yates field has a potential output of several times more than the Hendrick field, the former's 136 wells are being allowed to produce only an average of 390 barrels daily each.

Roxana's six-inch line from the Yates field to a car rack at McCamey is being used only to run oil produced from Roxana's leases.

Anderson County Well Making Oil and Gas

Houston.—Humble Oil & Refining Company's Lizzie Smith 1, a wildcat in the Boggy Creek district, Anderson County, is making considerable gas and about 50 barrels of oil a day by swabbing. It is in the north part of the David Roberts survey, being about four miles southwest of Humble's Elliott & Clark 1, the discovery well of the Boggy Creek Dome, near Jacksonville. The discovery well came in as a big producer, but quit producing within a very brief time; and subsequent drilling had been entirely fruitless until the Lizzie Smith 1 found production, although a large number of tests had been put down in the vicinity.

LOS ANGELES—The recent report of the Pacific Coast office of the American Petroleum Institute, showing that total stocks of crude and all products in the Pacific Coast territory decreased considerably more than 2,000,000 barrels during December, ordinarily a very dull month, gave the industry much encouragement. Every grade in storage showed decreases. Refinable crude, 20 degrees A. P. I. and lighter, showed a decrease of 1,103,000 barrels during the month. Stocks of heavy crude, 20 degrees A. P. I. and heavier, including all grades of fuel, decreased almost 800,000 barrels. Gasoline, naphtha distillates and miscellaneous stocks all showed small decreases during the month. Total California stocks decreased from 145,612,000 to 137,395,000 barrels during the year. Stocks of light crude were reduced almost 10,000,000 barrels during the year. Stocks of heavy crude and fuel oil increased about 4,700,000 barrels. The reduction in California stocks has helped to build up a fairly optimistic outlook for the present year.

Gasoline consumption during the last quarter of 1927 was only about 10 per cent less than during the previous quarter, according to latest figures. The first quarter of 1928 promises to eclipse the same period of 1927. In addition, the general gasoline situation is in a much better condition than at the same time last year.

Production in California continues to hover around 620,000 barrels, a figure far less than anticipated by even the most conservative. The natural decline in the older areas has slightly more than offset flush production in some of the more critical fields. An increase is expected, but it probably will be much smaller than estimates of two months ago indicated.

Seal Beach has again flared up, but it is too early to predict the possibilities of the new deep sand. The cost of drilling to the new formation may bar another townlot orgy of drilling.

Long Beach is not making the showing expected of it. Completions are smaller and fewer than during December. It has required more time for deepening and drilling than original plans indicated.

The Rincon field is still in the questionable class, although about 2500 barrels of production has been developed. Several wells are due for early completion.

Program Announced for Engineers Meeting at New York

Petroleum division of A. I. M. E. has long list of papers covering wide range of subjects for session beginning February 20

NEW YORK—Petroleum engineers and geologists will find much to interest them in the program of the Annual Meeting of the American Institute of Mining and Metallurgical Engineers to be held in New York, February 20 to 23. Aside from a strong program on geophysical prospecting running through two sessions, the Petroleum Division proper will hold 10 technical sessions, two round table discussions and a general review session.

Among general features of the meeting of wide interest will be the annual banquet of the Institute at the Waldorf, Tuesday evening, February 21, at which time gold medals will be given to Herbert Hoover, S. G. Blaylock of the Consolidated Mining and Smelting Company of Canada, and John A. Mathews, of the Crucible Steel Company of America. E. DeGolyer of the Amerada, president of the Institute, will preside.

The smoker, held Monday of convention week, will be in charge of Fred Kay of the Pan American Eastern, with Alexander Fraser of the Asiatic, and C. W. Hamilton of the Gulf also on the committee. Luncheon will be served in the Institute building each day and every effort will be made to give visiting members a good time.

Aside from the technical sessions of specific interest to petroleum men, there will be a large number devoted to metal and coal mining, metallurgy, iron and steel, mining geology and other subjects.

The papers to be read at the various sessions are listed below:

Petroleum Division

John M. Lovejoy, Chairman, R. S. McFarland, Secretary.

The Petroleum Division will hold ten technical sessions under the auspices of various sessions, two round tables, a dinner and a final general review session. The meetings have been concentrated in the two days following the general sessions of the Institute. Additional sessions for continuation of the discussions may later be announced.

Wednesday, February 22

9:30 *a. m., Refinery Engineering—Walter Miller, Chairman.*

The Modern Pipe Still—Harold S. Bell.

Refinery Acid Sludge Problem—J. B. Rather.

Use of Open Radiant Heat in Tube Stills—John Primrose.

The Recirculating Furnace—L. A. Mekler.

Modernization of the Cylindrical Still—C. W. Stratford.

Sources of Automotive Fuels—Frank Howard and R. T. Haslam.

Physical Control of Refining Process—Luis de Florez.

Technological Control of Refining Process—A. E. Miller and E. B. Phillips.

Role of the Combustion Engineer in Refining—Joseph W. Hays.

Use of Shielded Radiant Heat—James S. Alcorn.

Screened Radiant Heat and Its Application to the Petroleum Refining Industry—A. E. Nash.

Additional sessions will be held Wednesday afternoon and Thursday. Assignment of the papers to the individual sessions will be announced later.

At 9:30 a. m. A round table for the discussion of problems concerned with education of petroleum engineers and technologists will be held, with H. C. George as leader.

9:30 *a. m. Production Engineering—Joseph B. Umpleby, Chairman.*

Well spacing—W. P. Haseman.

Repressuring Early in the History of the Field—E. V. Foran.

Sucker Rod Strains and Stresses—F. W. Lake.

Bottom-hole Data with Particular Reference to Pressure, Temperature and Gravity of Oil—K. C. Sclater.

Laboratory Experiments on Water Flooding—L. C. Uren.

Deep Well Drilling Technique—Craddock and Decius.

Gas-Oil Ratios—T. E. Swigart.

Modern Technique in Petroleum Production—F. Julius Fohs.

Review of Mid-Continent Field, Including the Gulf Coast—C. V. Millikan.

Review of California—T. E. Swigart.

Ten Years Application of Compressed Air at Hamilton Corners, Pa., with core studies of the Producing Sand—Charles R. Fettke. (By titled for discussion.)

Some Factors Influencing Production of Oil by Flooding in the Bradford and Allegheny Fields—Paul D. Torrey. (By title for discussion.)

Oil Field Waters of the Bradford Pool—Paul D. Torrey. (By title for discussion).

Additional sessions will be held on Thursday. Detailed assignment of papers will be announced later.

2 *p. m. Refinery Engineering—continued.*

2 *p. m. Petroleum Economics—Joseph E. Pogue, Chairman.*

Economic Significance of the Oil Developments of West Texas—C. P. Watson.

Economic Analysis of the Fuel Oil Situation—Arthur Knapp.

Economic Aspects of the Gasoline Situation—Barnabas Bryan.

Economics of Natural Gasoline—D. E. Buchanan.

Economic Trends in the Lubricating Oil Situation—C. W. Stratford.

Economic Outlook for Exports of Petroleum Products—J. H. Nelson.

Loss-Ratio Method of Exterpolating Oil and Gas Decline Curves—Roswell H. Johnson.

Rationalization of Production: A study of a New Economic Technique Applicable to the Petroleum Industry—Alexander Sacks.

History of the Unit Plan for Development of Oil Fields—L. C. Snider. (By title for discussion.)

Cooperative Development of Oil Pools—O. E. Kiessling. (By title for discussion.)

If desired, an additional session may be held on Thursday to complete the discussion.

Thursday, February 23

9:30 a. m. *Refinery Engineering—Continued.*

Production Engineering—Continued.

Petroleum Production—W. E. Wrather, Chairman.

9:30 *a. m.—Appalachian Region—Russel Knappen.*

Kansas—L. W. Kesler.

Oklahoma—J. M. Sands.

Louisiana-Arkansas—L. P. Teas.

Gulf Coast—C. L. Baker.

East Texas—R. A. Liddell.

North Central Texas—W. G. Wender.

West Texas—A. R. Denison.

Rocky Mountain Region—G. Grimsfelder.

California—Earl Wagy.

Venezuela — Ed. Hopkins and H. J. Wasson.

Colombia—L. G. Huntley.

Russia—B. B. Lavoico.

Other Foreign Countries—J. T. Duce.

2 *p. m. Petroleum Production—Continued.*

Refinery Engineering—Continued.

Production Engineering—Continued.

2 *p. m. Petroleum Research, round table conducted by H. H. Hill.*

6:15 *p. m. Annual Dinner of the Petroleum Division at the Engineers' Club.* Get your tickets when you register.

8:15 *p. m. Review Session—John M. Lovejoy, Chairman.*

Refinery Engineering—Walter Miller.

Production Engineering — Joseph B. Umpleby.

Production—W. E. Wrather.

Economics—Joseph E. Pogue.

Use of Cement in Shutting Off Bottom Hole Water

By W. V. VIETTI and W. A. OBERLIN

Contribution from the Production Engineering Department
Marland Oil Company of Texas.

THE shut off of bottom hole water in oil wells is an accepted practice in the oil industry. Operators are familiar with the use of lead wool, cement, and limit plugs for this purpose. The type of hole and the character of the formation are generally the deciding factors as to what type of shut-off is attempted. The use of lead wool is limited largely to those holes penetrating a hard formation where a water shut-off may be obtained by compacting the lead wool in the hole. Shot holes and soft formations cannot be shut off by lead wool as the lead cannot be forced into crevices and will not firmly contact a soft formation which will cave and crumble as the lead wool is placed and compacted. Cement must be used in holes of this type and can be used in practically all shut-offs. It is the purpose of this discussion to present the factors involved in securing a successful bottom hole water shut-off. Many of these factors have previously been covered by other authors, and will be only briefly discussed. Water shut-offs are generally procured only by the exercise of all due caution and this coution can be taken only by one fully familiar with these factors.

Cement

There are a great number of brands of cement which are satisfactory for oil well cementing. Generally, all that need be specified in a general way is that the cement used be a high grade Portland cement. There are available to the industry several cements with special properties which make their use in certain jobs desirable. For the bulk of work, however, Portland cements are highly satisfactory and easily procured if not in stock. Portland cements are usually uniform in quality, but attention must be given to storage conditions, both in the factory and in the field. Storing in a moist atmosphere ruins the cement, as cement absorbs moisture from the air, which makes it unfit for use. As a rule only enough moisture is absorbed to produce the initial set in a portion of the cement, but cement so affected will never reach its final set. Cement of this type will invariably be lumpy. This condition may occur in the factory, due to milling or sacking when there is considerable moisture in the air, caused by rain, fog, etc. Operators should refuse to use cement of this type and make certain that this cannot occur in field storage. This rarely happens in modern factory and field practice, but instances have come to the attention of the authors.

Accelerators are used to hasten the set of cement in many jobs. The reduction of down time for cementing means less loss of current oil production, and a decrease in idle time and overhead charges. Many operators are therefore using accelerators on all their cement jobs. The primary constituent of the present trade accelerators is calcium chloride. The effect of calcium chloride is chiefly the reduction in the time of initial and final set. Figure 1, shows the effect of calcium chloride on the initial and final set of cement. The values of initial and final sets were measured by an improvised method and are not "standard" values. The results were, however, uniform among themselves and show clearly the results of adding an accelerator.

Calcium chloride is extremely soluble in water and the accelerators or "hardeners" now being sold are solutions of calcium chloride in water. An analysis of several of these solutions has shown the presence of ordinary salt, and, in some instances, a small amount of caustic. The latter was added either as lime or caustic to render the solution alkaline and thus reduce the corrosive tendency of calcium chloride solutions. Figure 1 shows that the acceleration of initial and final sets varies as the percentage of calcium chloride decreases. Figure 2 presents the results of analysis of six commercial accelerators, both in terms of specific gravity and of percentage calcium chloride content. These commercial solutions vary in calcium chloride content from 15.5 to 40 per cent and are sold by the gallon. The prices quoted per gallon are such that the actual price of calcium chloride varies several fold. The authors propose to the industry that the purchase of cement accelerators or "hardeners" be made on the basis of the actual cost per pound of calcium chloride since the value depends on the amount of calcium chloride.

Figure 1 shows that calcium chloride rapidly lowers the time of initial and final set until about 2 per cent of the cement weight is reached. Further addition of calcium chloride produces little additional lowering of initial and final set and a recommendation of 2 per cent added calcium chloride is made. The addition of excessive amounts of calcium chloride is to be avoided as the strength of the cement will be lessened. Combining the above recommendations from Figure 1 and the results shown in Figure 2, we develop Figure 3. Figure 3 shows the amount of solution at any density which will contain two pounds of calcium chloride which is approximately 2 per cent of the weight of a sack of cement. This chart will serve as a guide as to the amount of various accelerators to be used for uniform results.

Effect of Saline Water on the Setting Times of Cement

Experiments were performed in the laboratory to determine the effect of saline oil well waters on the setting times of cement. These experiments were suggested by Mr. Charles Geddes, drilling superintendent, Marland Oil Company of Texas.

The cements used were a good grade Portland cement and a special oil well cement. The accelerator used had a specific gravity of 1.4 and a calcium chloride percentage of 40 per cent or 4.66 pounds per gallon. Fresh water used was ordinary tap water. Saline water used was a typical bottom water from the Panhandle field and contained 15 per cent sodium chloride and other salts in small proportions. The mixes were made up by weight and the fresh water used was 40 per cent of the weight of dry cement. The volume of salt water used was the same as the fresh water. Accelerator, when used, was slightly over 2 per cent of the weight of dry cement. The setting times were taken by Standard Gilmore needles. Samples were prepared and setting times taken with the samples exposed to air. The results given in Table 1, Series I and II and plotted in Figure 4, are the average of three runs.

These experiments were repeated, pouring the neat cement mix into a hole formed in sand saturated with saline water. A mix of 50 per cent water was also tested under these conditions. The times measured are accurate only to within 15 minutes because the surface of the cement was covered with water. These are summarized in Table 1, Series III and Figure 4. In no case was there any failure of the cement to set to a firm hard mass. The difference in the setting time was approximately the same as Series II, but show a small general increase.

In order to give the saline water a greater opportunity to come in contact with the cement, a mold was made of screen wire and next used to hold the cement slurry. The cement was surrounded and covered by saline water. The setting times are given in Table 1, Series IV, and closely correspond to the results of Series III, but show an added increase in setting times.

From the data presented in Table I it is apparent that as long as cement is al-

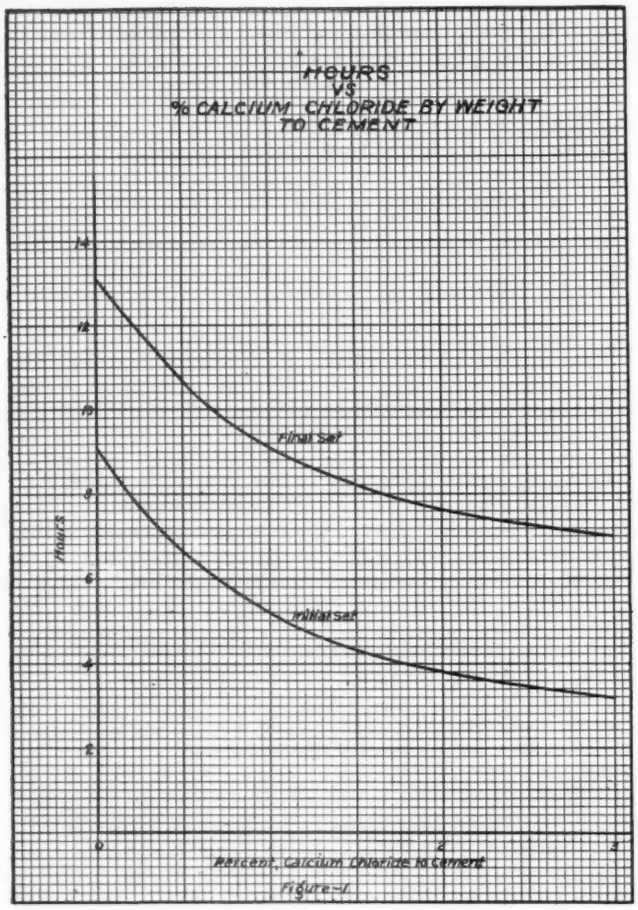


FIGURE 1

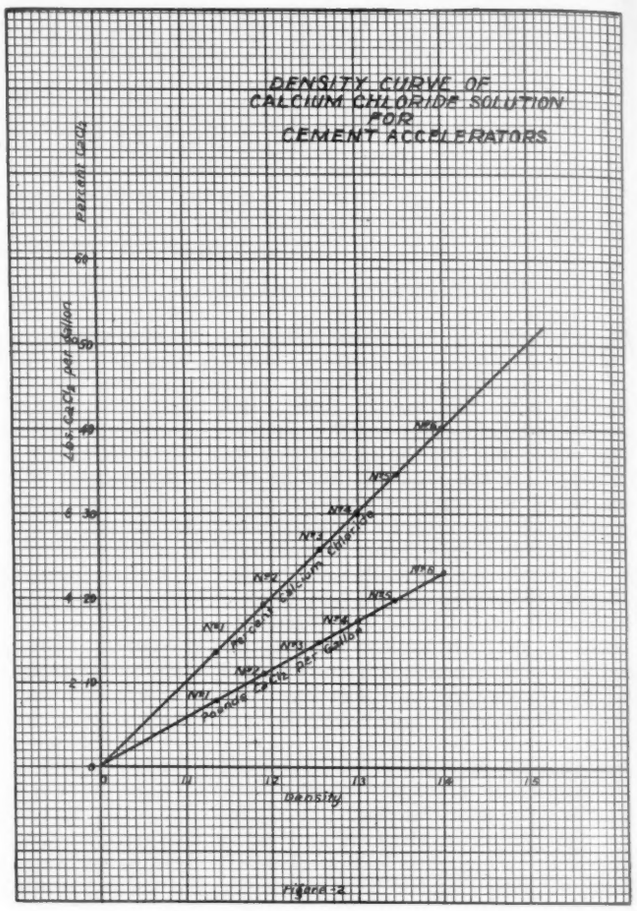


FIGURE 2

lowed to remain in a compact mass and is not mixed with a large amount of water, setting will occur, even though the water be high in salt content.

While the slurries of Series IV were being poured it was noticed that a small portion of the cement became mixed with and was suspended in the surrounding saline water. This suspended cement gradually settled out. The suspended cement from the fresh water mixes did not set when settled, but remained as a sludge in the bottom of the container. The suspended cement from the saline water mixes settled and reached a set.

TABLE 1

Effect of Saline Water on the Setting Time of Cement.

Series I: Portland Cement. Mixing Water	% Calc 2to cement	Initial set	Final set
40% Fresh	2—plus	3:54	5:18
40% Saline	2—plus	5:47	7:45
40% Fresh	0	7: 1	13: 2
40% Saline	0	7: 5	11:40
Series II: Special Oil Well Cement.			
40% Fresh	2—plus	3:32	4:40
40% Saline	2—plus	4:13	6:42
40% Fresh	0	5:36	10: 5
40% Saline	0	6:32	9:45
Series III: Special Oil Well Cement—In Sand Molds.			
40% Fresh in Sal.	0	6: 0	10:00
40% Sal. in Sal.	0	7: 0	10:30
50% Fresh in Sal.	0	7:30	12.00
50% Sal. in Sal.	0	9. 0	13:00
Series IV: Special Oil Well Cement—In Wire Molds.			
40% Fresh in Sal.	0	6:15	10:30
40% Sal. in Sal	0	7:30	11:00
50% Fresh in Sal	0	7:45	12:30
50% Sal. in Sal.	0	9:45	14:00

To further investigate this, slurries were made up of cement with fresh and saline waters. These slurries were then poured into a container of saline water in such a manner that the cement became mixed with a large amount of water and had to settle from suspension to a mass at the bottom of the container. The results are tabulated in Table 2, and show that when cement mixes are mixed with large amounts of saline water, over twice as much cement-saline water mix will set than cement-fresh water mix and that the initial and final sets are correspondingly reached in half the time. When cementing bottom hole water by the dump bailer method, the actual conditions approximate the above experimental conditions in as much as considerable mixing of well water and cement slurry will occur. In instances of this sort, it will be advisable to bail water from the well and use this water for mixing the cement. Accelerator will also hasten the time of setting, and it is recommended that 1.5 per cent

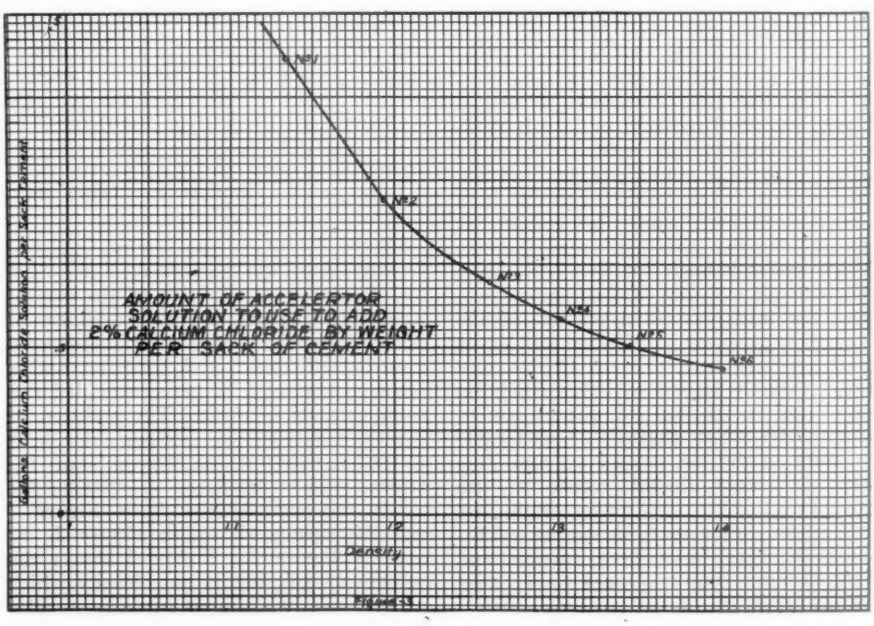


FIGURE 3

calcium chloride per sack be used for this type of work. The greatest objection to the use of saline waters for the preparation of a cement slurry is that the strength of the final cement is 10 to 50 per cent less than a cement made with fresh water and allowed to set under ideal conditions. However, ideal conditions do not exist in bottom hole cementing and the assurance of a job is in most cases more important than the strength of the job, as very little load is placed on the cement.

TABLE 2

The Setting of Cement Settling Through Saline Water.

Mix:	Initial Set—Hrs.	Final Set—Hrs.	Amount Reaching Set
Fresh water	20	30	1/3
Saline water	10	16	3/4

Preparation of the Hole

Preparation of the hole before placing the cement is highly important, and the most difficult step to properly perform in cementing bottom hole water. The hole should be free of mud, sand, and cavings and the walls of the hole should be clean. If the hole is not cleaned of loose material and oil, a bond between the cement and the walls will not form and water will break in around the cement plug gradually eroding the cement and thus causing a failure. Any extra time and effort spent in preparing the hole will result in a greater assurance of a job and, in the average, a lower cost per successful job and less down time for cementing jobs.

Loading the Hole

Cement will not set if agitated. Agitation which destroys the initial set will destroy its final set and the success of the job. All movement at the bottom of the hole must be stopped if success is to result. The movement of gas, oil and water in the hole should be stopped by loading the hole and killing the well with water, or water and oil, or by allowing the well to stand until formation and well pressures are equalized. A certain amount of water at the bottom of the hole is necessary and if oil is used in loading the hole care should be taken to insure against the oil coming in contact with the formation to be cemented.

Mixing and Placing the Cement

The cement mix should be governed by the method of placing the cement. When the cement is placed by pumping through tubing one barrel of water per seven sacks of cement is advisable. This corresponds to a water content of 60 per cent by weight of the cement. Dump bailer jobs can be performed with 40 to 50 per cent water or one barrel of water to eight to 10 sacks of cement. The use of cement shoes with tubing will hold the cement in place and reduce mixing to a minimum. It is not the purpose of this short discussion to balance the merits of various cementing appliances but only to point out the desirable and undesirable conditions for bottom hole cementing. The method of placement of the cement is a matter to be decided by the operator. Care should be taken, however, to place the cement as soon as possible and to prevent the admixture of large amounts of water or any oil with the cement slurry. If solid calcium chloride or if a solution is used to accelerate the set, the accelerator should be thoroughly mixed with the water before making the cement slurry. The use of well water in which the cement is to set for the preparation of the cement slurry will give more assurance of a job although the final cement may not be as strong.

Summary

1. High grade Portland or special cements should be specified for all oil well cementing.

2. Calcium chloride is the active ingredient in liquid cement accelerators. Accelerators should be purchased on the basis of cost per pound of calcium chloride delivered and not on a cost per gallon. Charts are given to guide operators in this respect. The use of calcium chloride is recommended when a quick set is desired and the amount recommended is two per cent by weight of the cement.

3. Experimental results show that cements will set satisfactorily when mixed with saline water. If the cement slurry will become mixed with large amounts of well water while placing the cement, it is advisable to mix the cement with the well water in which the cement is to set and to use 1.5 pounds of calcium chloride per sack of cement.

4. A well should be thoroughly cleaned out before attempting a bottom hole cement job.

5. All movement of gas, oil and water in the well should be stopped by loading or killing the well before attempting a cement job.

6. Cement should be placed with as little admixture of well water as possible.

7. Most unsuccessful cementing jobs are the result of failure or inability of the operator to properly prepare the well or to handle the cement. Strict adherence to good practice will generally result in a successful job. In this respect, it will prove of great value if the operating head will require a report to be made outlining the reasons for failure when an unsuccessful cement job is performed. These reports will serve as a guide for future reference and thus be of great value. Bottom hole water can be successfully shut off by the use of cement, if the operator will take the precautions of cleaning and loading the hole, properly mixing and placing the cement in the right place, and allowing the cement to stand for at least three days.

State Department After Foreign Oil Concerns

Washington. — Echoes of the Navy Department's move to curtail the acquisition of American oil by foreign concerns are heard at the State Department, where Secretary Kellogg is declared to be in complete accord with the general policy of denying in this country privileges to foreign oil companies whose own governments refuse to accord to American corporations operating in their territory rights similar to those enjoyed by their nationals.

State Department officials did not refer specifically to the battle for the Indian oil market between the Standard Oil Company of New York and the Royal Dutch Shell, but the declaration of principle was generally accepted as being applicable to the situation and support for the Navy Department's open war on the sale of oil from the California naval oil reserves to the Royal Dutch Shell of Great Britian through, according to the understanding of naval officers, the Honolulu Consolidated Oil Company. It is made quite clear at the State Department, however, that the Navy's policy was formulated without previous consultation with Secretary Kellogg or his assistants.

Two other oil issues, the first with Spain, and the second, still quite nebulous, with Chile are receiving the attention of the State Department. The Spanish oil issue, resulting from the Spanish oil nationalization laws which provided for the concentration of oil property control in one central adminstration at Madrid, is still unsettled State Department officials declared today. The issue is not very serious, though, officials explained, because the question is one of adequate compensation rather than compensation. The State Department's interest is in obtaining a fair settlement for American property holders and its concern is distinctly not whether there is to be any settlement at all.

A second issue, which came up recently, is provoked by the Chilean Government's action in "suspending" all oil leases with a view to examining whether or not they are consistent with Chile's national aspirations. Although this government has not taken official cognizance of Chile's move as yet, State Department officials are following the development of the situation attentively and studying the effect of the action on American holdings in Chile.

San Luis Obispo, Calif.—The Elberta Oil Company's well near Edna, which recently opened up an entirely new producing area east of the Tiber field, is still producing at the rate of 300 barrels. The well is agitated occasionally with the pump to stimulate the flow. A large leasing program is being carried out and acreage near the well is in demand.

Bright Future for Argentine Oil Under Government Exploitation

MEXICO CITY.—(By Trens Agency)—A brilliant future for the Argentine oil fields is predicted under government exploitation by General Enrique Mosconi, Director General of Fiscal Petroleum Deposits of Argentina, who is now in Mexico making a study of Mexican petroleum laws and procedure. This government agency is a dependency of the Department of Agriculture, but functions autonomiously.

General Mosconi states that while the government had appropriated one hundred and sixty million Argentine pesos for exploitation work, it had only been necessary to draw on eight and a half million, the exploitation paying for itself to so large an extent. Speaking of the petroleum situation of Argentina in general, he says:

"In the industrial movement of the Argentine Republic, within which, as is well known, agriculture and cattle raising hold first place, petroleum exploitations, particularly in recent years, have taken on an essential importance, having during this time reached a stage of normal development and drawing away from the uncertain period of initial exploitations.

"In this industry, the Direction General of Petroleum Deposits, an agency dependent from the national government, which exploits the fiscal zones of Comodoro Rivadavia and Plaza Huincul, is the most important of the Argentine enterprises. Figures will show the development of our exploitations, the manner in which we provide for our home consumption and, at the same time, the proportion in which our government, through the intermediation of State distribution, contributes to the solution of the fuel problem of the country with the supply of Argentine petroleum.

"The production of crude petroleum during the year 1927 reached 1,300,000 cubic meters, 730,000 corresponding to fiscal exploitation and the remainder to private companies. From the cracking of this crude petroleum there were obtained 1,078,000 cubic meters of fuel oil, 615,000 of this belonging to State exploitation, and the production of naptha and kerosene amounted to 200,000,000 liters, of which the official distribution turned over 120,000,000 liters for internal consumption.

"The needs of home consumption, undoubtedly required, during this period of time, larger quantities of the first mentioned product, although in small proportion, by the industries of the country in 1927 was 1,278,000 tons, of which only 200,000 came from foreign production. For the lighter fuel, naptha and kerosene, this proportion, as we have already stated, increased considerably, the consumption of the country reaching 500,000,000 liters, of which 350,000,000 were supplied by importing companies.

"As we have said, in the Argentine petroleum exploitation, the fiscal distribution is what has reached the greatest importance, its production being greater than that of all other companies combined. The Direction General of Fiscal Petroleum Deposits constitutes thus, with its various dependencies which take in all the manifestations of petroleum exploitation—the most complete, undoubtedly, of contemporaneous industrial movements—an organization exclusively of the Argentine government. Its several sections cover all the development of the industry, from the geological exploration and the extraction of the petroleum, to the sale to the public of the derivatives of this fuel, there being adopted in each case the system which is most convenient for the national interests.

"The fiscal distribution now exploits intensively the deposits of Comodoro Rivadavia, in the first place, and those of Plaza Huincul, the former in the national territory of Neuquan and the latter in Chubut. All the crude production from both fields is treated in the Fiscal refinery at the port of La Plata, a modern plant of recent construction, with a capacity for treating from 2000 to 2400 tons a day. For the transportation of the crude and its derivatives, the distribution has a fleet of seven ships with a total cargo capacity of 50,000 tons.

"The apportionment of the products by the distribution has been made in a convenient manner, with the purpose that they reach the consuming public directly, without the intervention of third parties, which would increase prices, and in accord with the requirements of each zone in the country. To this end, in addition to the distribution plants installed in the more important cities in the various regions of the country and in which there are storage tanks with a total capacity of 500,000 cubic meters, agencies are in operation in all parts of the interior, which, because of their importance, require it, the total of these, at the end of last year reaching 900, a figure which, although large and reflecting in itself not only the importance of the distribution but, seen from abroad, the importance which our interior districts are taking on, is increasing as circumstances demand it.

"The funds at the disposal of the Direction General of Fiscal Petroleum Deposits, at the end of the year 1927, amounted to 160,000,000 pesos. Argentine currency, that is, seventy million dollars. This organization is dependent from the Department of Agriculture, but is autonomous in its functions and is directed by an administrative commission, composed of a chairman and six members, the director general of the distribution being chairman.

"Finally, in order to show the importance of the petroleum exploitation by the Argentine government, as well as the sound foundation on which its expansion has been based, let me say that of the funds available, which I have mentioned, the government only contributed 8,500,000 pesos, disbursed at various times; the last being of 500,000 in the year 1916, since which time the distribution has met its budget and all extension work from its own income."

Soviet Production During November

Production of crude oil from the principal Soviet oil fields amounted to 925,800 metric tons for the month of November as compared with 950,800 metric tons for October (a record for the industry) and 823,100 metric tons for November, 1926.

Oil production for the first eleven months of the calendar year 1927 amounted to 9,505,200 metric tons as against 7,909,200 metric tons for the corresponding period of 1926, a gain of 20 per cent. Oil production for the complete year 1926 was 8,793,700 metric tons.

The output of oil from the principal Soviet fields for 1926 and 11 months of 1927 by months in metric tons:

	1926	1927
January	637,400	830,900
February	583,400	766,300
March	644,400	861,500
April	667,100	839,700
May	728,800	909,900
June	738,300	831,000
July	760,300	864,600
August	784,800	863,300
September	748,300	861,400
October	793,300	950,800
November	823,100	925,800
December	884,500	

Exports of oil products from the Soviet Union for October, 1927, which is the first month of the new fiscal year, amounted to 178,342 tons, a decline as compared with the record figure of 245,809 tons for September, but a considerable increase over the exports for the same month last year.

Exports for October by products (metric tons):

Kerosene	52,370
Gasoline	37,400
Lubricating oil	10,834
Solar oil	1,706
Fuel oil	64,032
Crude oil	12,000
Total	178,342

Water Intrusion Hurries Work In Yates Field

Nearly half of producing wells are now making water and operators are rushing recovery; new producing area in Reagan County

By H. H. KING
Staff Representative

SAN ANGELO, Texas — A fresh outbreak of water intrusion upon the oil producing horizon in the Hendrick field, Winkler County, developed during the past week, and nearly one-half of the completed wells in the field are now making water along with the natural flow of oil. The percentage of water is being successfully reduced by applying back pressure to most of the wells making cut oil, but fluid production must be cut to a fraction of potential output. Water troubles have developed in wells completed with perfect casing seats and drilled only a short distance into the lime pay, while the highest wells on structure in the field have suffered from water encroachment in almost as great numbers as those situated on the lower edges. Operators are making a thorough study of the water situation, and opinions differ greatly, although all are of the opinion that the oil must be withdrawn with the greatest speed possible in order to obtain maximum recovery.

Flush production is still available in the section of the Hendrick field suffering most from water encroachment, as evidenced early this week by Roxana's Hendrick 3 "C", which blew in when the top of the pay was scratched at 2912 feet and shot the tools more than 100 feet above the derrick. This well flowed wild for a brief period, and is estimated good for about 1000 barrels of oil per hour, but an actual gauge was not available. It is located on the north line of section 29, and one location west of Roxana's Hendrick 1 C, which was completed last November, making 980 barrels of oil on the first hour gauge, from top of pay at 2885 feet. This latter well is making water, and alsc the south offset.

Magnolia's 80-acre lease has been the hardest hit by water, and three completed wells are showing from 50 to 95 per cent cut oil. Plugging back has not given relief from cutting the oil. Turman and Maxwell's 80-acre lease, adjoining Magnolia to the east, has encountered water troubles before any of the three wells in process of completion could be drilled in.

Texon Oil and Land Company's Grisham-Hunter 1 "A", an old producer on the east side of the field, began showing 20 per cent cut oil while pinched to 1800 barrels daily, and after choking the production to one-half the above output the volume of cut oil was reduced. Pure Oil Company's quarter section lease in section 41 has two wells making a high percentage of cut oil, although drilled only a few feet in the lime. Pure has six tests shut down on top of the pay awaiting a decision on The Texas Company's option to purchase this and other West Texas proven and semi-proven leases, and indications are that the trade will fall through.

Oil production was carried one and one-half miles due north of the Hendrick field early this week, when Collett and Atlantic's Hendrick 1 "F" began flowing by heads while drilling in lime at 2660 feet, or 230 feet in the big lime horizon.

A second oil producing area for Reagan County was in prospect early this week with 2000 feet of fluid standing in Skelly Oil Company's wildcat test on University Fee land, located on a line between the Big Lake field and the World-Powell field, Crocket County. Preparations are being made to swab the well to test for production, which is coming from the Big Lake lime at 3131-38 feet. This wildcat is the nearest approach to a commercial well scored in Reagan County outside of the Big Lake field, although 58 deep dry holes have been drilled and plugged since the Texon Oil & Land Company's discovery well hit the oil pay in May, 1923. This new oil strike is located in the southwest corner of section 33, block 8, and about five miles south and three miles east of the Big Lake field. Skelly and associates have lease on several thousand acres surrounding the wildcat location, which is only a few miles below a half circle of deep dry holes. However, small shows of oil and gas were logged by a few of these failures.

New completions in the Yates field during the past week included a number of unusually large producers, while efforts to prove up more territory outside the field were disappointed by three tests drilled by Pandem & Gibson, Douglas & Roxana and Sun Oil Company-Bob Penn & Atlantic. Simms Oil Company's M. A. Smith 4, located on the south line of section 103, gauged 1000 barrels for one hour on open flow from regular pay at 1214-53 feet, and the same company's Smith 5 is credited with having put 493 barrels of pipe line oil into flow tanks during the first half hour open flow test from pay at 1188-1280 feet. The latter well is located in the southeast corner of section 103, and give offset production to Pure

HENDRICK FIELD OPERATIONS

The status of operations in the Hendrick field, Winkler County, Texas, at the close of last week is shown below by companies:

Company—	Locations and Rigs	Drilling Tests	Tests in Big Lime	Completed Wells	Initial Prod.	Daily Avg. Prod.
Amerada Petroleum Corp.	..	..	1	..	.....	.....
Arizona Mining & Eng. Co.	1	..	..	..	.....	.....
Atlantic Oil Prod. Co.	..	..	6	3	8,460	*7,035
Atlantic & J. D. Collett	1	..	1	..	.....	.....
V. T. Bolin & Company	1	..	..	..	.....	.....
Cranfill-Reynolds	1	..	1	3	11,825	*6,085
Eastland Oil Company	..	..	1	..	.....	.....
Gulf Production Co.	4	3	..	6	16,695	*9,180
Humble Oil & Refining Co.	2	1	3	4	19,400	*7,580
Independent Oil & Gas Co.	4	3	4	4	18,670	*12,650
Landreth Prod. & Roxana	1	..	2	3	10,800	*8,270
Magnolia Petroleum Co.	1	1	3	3	10,000	4,260
Joe Maxwell & L. C. Turman	..	2	6	..	.....	*2,405
Murchison & Cranfill Bros.	3	..	2	4	6,175	1,995
Republic Production Co.	..	1	2	1	6,000	3,795
Roxana Petroleum Corp.	2	2	6	4	30,600	*9,510
Waldo Sheldon & J. E. Burden	..	..	1	..	.....	.....
Southern Crude & Dixie Oil	1	1	9	7	8,310	*5,915
So. Crude & Westbrook	2	3	11	5	9,350	6,925
The Texas Company	2	2	6	2	7,040	*2,805
Texon Oil & Land Co.	..	..	4	1	4,100	*1,590
Totals	26	19	69	50	166,425	90,000
Totals previous week	29	18	68	48	163,335	84,705

*Production partially pinched.

Oil Company's lease covering all of section 104, although drilling has not been started by Pure, owing to The Texas Company having an option to purchase this lease along with other proven and semi-proven leases in Crane, Upton and Winkler Counties.

Mid-Kansas & Transcontinental's Yates 1-F, located in the west end of section 63, block 1, promises a three-quarter mile extension to the northwest, as this test is encountering the usual shallow oil and has horizons, having developed 300 feet of oil in the hole at 505-87 feet, and a gas pocket blew the tools out of the hole. It is now drilling below 650 feet. These interests are starting two offsets to the small producer on the lower end of the field, which was established several weeks ago, when M. A. Smith 2, section 31, made 100 barrels daily at 1110-1245 feet. This extension materially increased the pipe line proration outlet from the field for its owners.

A new "proven acreage" map is being compiled by J. Elmer Thomas, Fort Worth, consulting geologist engaged by the Yates field proration committee, and a meeting of all producers in the field will be held as soon as the data is completed. This report will be the basis for determining pipe line outlet quotas for February.

Fourth Completion in Pandem Field

Cisco, Texas.—The Pandem pool in Western Brown County added its fourth oil producer early this week when the Pandem Oil Corporation's A. L. Curry 2, located south of the discovery well, flowed 300 barrels of 44 degree gravity oil from regular pay at 1105-13 feet. The crew suspended drilling to move back boiler, and take more of the sand pay. M. L. Richards, Wichita Falls independent producer and wildcatter, completed a north offset to the discovery well last week with an initial flow of 225 barrels of oil at 1120 feet. Pandem's T. Hutton 1, a west offset to the discovery well, was completed January 11 with an initial flow of 600 barrels of oil after drilling 22½ feet of sand to a total depth of 1125½ feet.

A new shallow oil producing area for Eastern Coleman County was in prospect early this week when Harry Gwinnupp - Bradstreet and associates' wildcat test on the J. P. Norris Ranch developed several hundred feet of oil in the hole from sand at 1985-86 feet. Operations were suspended to move in flow tanks. This wildcat is located near the center of the west line of the R. Cochran survey 269, and is about two miles due south of Echo. The nearest production lies about one mile to the west, but in a deeper horizon.

Deep lime production in Stephens County registered a 300-barrel flowing well during the past week when the Hickok Producing Company's Hamil 1, located northwest of Breckenridge, after drilling one foot into the pay to a total depth of 4053 feet.

Jones County Well Swabs 70 Bbl. in 12 Hours

Abilene, Texas.—A preliminary test of the oil production encountered January 20 by Hutson-Weaver and associates' wildcat test on the Smith land in southwestern Jones County in sandy-lime at 2498-2502 feet was made late last week, and during the first 12 hours the well swabbed about 70 barrels of high gravity oil. This well is located near the center of the south line of section 51, block 18, T. & P. Railway survey, and about five miles north of the Noodle Creek field. Although the formations check favorably with the producing horizon in the latter field, the Smith well is on a separate structure, with dry holes in between. A string of 6⅝-inch casing was set at 2371 feet, with a liner below to shut off cavings.

Pipe line connections have been given The Texas Company's wildcat oil producer on the Dan W. Stephens farm, Fisher County, and several thousand barrels of oil have been loaded on tank cars and shipped to Moran, where the oil is turned over to the main line system of The Texas Pipe Line Company. The latter concern strung two miles of two-inch pipe from the Fisher County producer to a five-car capacity rack on the Katy Railroad. This is the first oil well in the county, and it is swabbing about 180 barrels of 38 degree gravity oil daily from lime pay at 3238-75 feet, but will be put on pump as soon as electric power lines are extended to the well. More drilling is scheduled to take place shortly around this well, which is located in the southeast corner of section 79, block 1, H. & T. C. survey.

Wildcat activity in Runnels County attracted fresh interest during the past week when the Watchorn Oil & Gas Company, Oklahoma City, developed a good show of oil and considerable water from lime pay at 2296-97 feet in a wildcat test being drilled on the J. L. King land, Geo. W. Dyer survey. This test was carried deeper, and was credited with having a hole full of water at 2360 feet early this week. It will be drilled to the McMillan oil producing horizon at about 2540 feet. The latter pay was proven for high gravity oil production last August with a 150-barrel well by Hill-Ladd et al, and the McMillan discovery well continues to produce about 75 barrels daily.

Bowers-Jackson Pool Registers Substantial Gain; Oil Demands Premium

Amarillo, Texas—The Bowers-Jackson pool in Gray County registered a substantail gain in high gravity oil production during the past week through the completion of several big wells by Danciger Oil and Refining Company, and revival of heavy flow of oil in The Texas Company's first well in the pool. This area is furnishing the best grade of oil available in the Texas Panhandle, with a gravity ranging from 40 to 44 degrees, and independent pipe lines extending to car racks at Pampa are offering a dime premium above the posted price, but, due to the quality of the oil the majors are turning down premium offers and handling their own production. The pool averaged 11,530 barrels daily from 21 producers during the past week, and late completions sent production well above 15,000 barrels early this week.

Danciger's Jackson 8, located in the northwest quarter of section 88 and in the heart of the field, came in early this week with an initial flow of 130 barrels per hour, and gauged 670 barrels during the first 12 hours from granite wash at 2900 to 3072 feet. The same concern's Jackson 6 was completed last week with an initial flow of 3200 barrels after drilling 49 feet in the pay to a total depth of 3045 feet. The latter was drilled in with rotary.

The Texas Company's Bowers 1, which was completed several weeks ago and developed paraffine trouble, has been revived and gauged 4450 barrels daily, and is now the largest producer in the Panhandle.

Daily average production during the past week on the Bowers and Jackson leases in Gray County, is shown below by companies, with the number of producing wells included:

Companys—	Wells	Prod.
Gulf Production Co.	2	3,560
Danciger Oil & Refining Co.	5	3,420
The Texas Company	1	2,930
Gibson Oil Corporation	2	560
Operators Oil Company	1	410
Mid-West Exploration Co...	1	270
Majestic Oil Company	3	130
C. E. Pollard, et al	1	125
Skelly Oil Company	2	85
Phillips Petroleum Company	2	40
M. J. Delaney-Eslick, et al ..	1	..
Totals	21	11,530

One Killed in West Texas Refinery Explosion

McCamey, Texas—The explosion of a gasoline rundown tank at Humble Oil & Refining Company's 10,000-barrel capacity skimming plant at McCamey shortly after noon January 27, resulted in instant death for Fred Hendricks, 25, a member of the laboratory staff. The fire that followed caused damage in excess of $100,000 to other nearby storage tanks and equipment, and caused a temporary shut-down of the plant, which has been operating on 28-32 degree gravity West Texas crudes.

PERSONAL MENTION-MEN YOU KNOW

J. R. Simpson of Seminole, Oklahoma, has been elected president of the Homestake Oil Company, a concern which represents the outgrowth of the O. D. Strother interests, pioneer operators in the Seminole district. J. C. Grier of Martinsville, West Virginia,, was elected vice-president, and F. D. Carden, secretary-treasurer.

W. E. Klumph, district foreman for Prairie Pipe Line Company, Tulsa, is convalescing from an operation at Rochester, Minnesota, recently, and is expected to return to the Mid-Continent in the near future.

John Fertig, vice-president and general manager of the Producers and Refiners Corporation; R. E. Wertz, general superintendent, and O. O. Holmgreen, secretary-treasurer, were in Tulsa from Denver last week on business. Producers & Refiners has opened land department offices in Tulsa following removal from Denver to Independence of the company headquarters.

A. G. Fenwick, president of Fenwick-Reddaway Manufacturing Company, Newark, New Jersey, died at East Orange, New Jersey, on January 19. Mr. Fenwick was well known throughout the oil country and also in industrial circles in the North and East, having been one of the pioneers in the manufacture of camel's hair belting for industrial use.

More than 1000 oil men are expected to attend the annual banquet of the Chamber of Mines and Oil, which will be held at the Ambassador Hotel on the evening of March 10. These banquets are equivalent to a yearly meeting of the oil men of the industry in California.

C. W. Hanley, zone agent for the Gulf Production Company in the North Texas district with headquarters at Wichita Falls, visited the district offices of the company in Fort Worth last week.

W. E. Moody, vice-president of the Shaffer Oil and Refining Company, has been elected a director of the company, and B. L. Majewski, general sales manager, has been elected a vice-president and also a director.

Dr. H. S. Thomson has been named Chief Surgeon of the Standard Oil Company of California, to succeed Dr. L. P. Howe, who recently resigned. Dr. Thomson is a graduate of the University of California and John Hopkins University of Baltimore. During the World War he was chief surgeon at the base hospital at Royat, France. He holds the rank of lieutenant colonel in the Medical Reserve Corps.

WILLIAM B. SUTTON
Named General Manager Crude Oil Department, Southwest Division, of the Vacuum Oil Company, with headquarters at Houston.

Edwins Higgins, who has served as secretary of the Chamber of Mines and Oil of Los Angeles for four years, has been made managing director and secretary. D. S. Gilgore, who has occupied the position as auditor, has been advanced to assistant secretary and auditor.

A. C. McLaughlin, vice-president of the Associated Oil Company, has been elected by the Chamber of Mines and Oil of Los Angeles to represent the organization of the Public Relations committee of the American Petroleum Institute for the ensuing year.

The A. O. Smith Corporation has announced the removal of its Dallas office to Houston.

William B. Sutton has been named general manager of the Crude Oil Department, Southwestern Division, of the Vacuum Oil Company, with headquarters at Houston, succeeding W. C. Brower of New York, who has been granted a year's leave of absence by the company on account of ill health. At the end of that time Mr. Brower will be on the retired list of the Vacuum, following more than 40 years of active service with the company.

Mr. Sutton has been with the Vacuum Oil Company at Houston for more than two years, coming to the company in the capacity of manager of the lease and land department. Formerly he was connected with the Prairie Oil & Gas Company as assistant superintendent of the land department.

The new general manager of the Vacuum's Crude Oil Department has been connected with the oil business practically all of his life, and numbers among his former boyhood pals in Pennsylvania many close friends who are now occupying executive positions in some of the largest oil companies in America.

C. W. Hadley, in the New York office of the Vacuum, will act in charge of the crude oil department of the company generally. J. R. B. "Bob" Moore, who has been acting as assistant manager of the land and lease department, has been officially designated to that position, with headquarters at Houston.

With the exception that the Vacuum will no longer operate in the Southwest under an "operating committee," there have been no further changes made.

H. B. Simcox of the Continental Oil & Gas Company at Denver has been visiting in Houston. He was formerly with The Texas Company at Houston, having served as assistant to the vice president and general manager of that company.

W. C. (Bill) Andrus, manager of the Houston office of the Regan Forge & Engineering Company, made a trip through Southwest Texas last week, visiting the gas fields of that section, and stopping in Laredo and in San Antonio.

Changes in Marland Staff Start Many Rumors

TULSA—Recent changes in the executive staff of the Marland Oil Company have set the Mid-Continent oil tongue to wagging. The chief question of the hour is "what's happening in Marland?"

There are all manner of answers. None comes with authority. Each is the result of a deduction, or a set of deductions on the part of the man giving the answer. There has been nothing official out of the Marland organization, nothing in the way of an explanation. All that has come out of the company is a number of resignations, two of which were startling.

Apparently those in position to know the significance of these changes are not disposed to clarify the condition. It is an assumption to intimate that the situation needs clarification. But events at the Ponca City headquarters of the Marland Company and its subsidiaries have aroused so much speculation in oil circles that the subject has been somewhat public property.

What is to be set down here is not offered as official, for only speculation is its basis. It is but an effort to put two and two together without any thought of having them give the proverbial answer—four.

Resignations of W. H. McFadden, senior vice president, and Dr. W. A. J. M. van Waterschoot van der Gracht, also a vice president, are the two happenings that have brought most of the speculation. There have been other changes in executive positions but these have not been looked upon as carrying the import of the leaving of these two men.

The answer most common following that question of "what's happening in Marland?" is that shifts in the Marland executive family are an evidence of the world-wide trade battle assumed to be at fever pitch between the Standard Oil group and the Royal Dutch Shell interests.

Some history may throw light on this assumption. Over a period the Marland Oil Company became affiliated with the Royal Dutch Shell group through the Roxana Petroleum Corporation. When the Marland Company, through the Comar Oil Company, began development of the Tonkawa pool, a half interest was sold to the Roxana. For many quarters Comar production led in Oklahoma production. There were other instances of sales of interests in Marland controlled concerns to the Roxana.

When Dr. W. A. J. M. van Waterschoot van der Gracht left the Roxana Corporation and went with Marland, it was taken for granted that Marland and Roxana were linked for a long period.

Then came financial transactions and oil deals, whereby Standard Oil came close to the Marland Company. Marland once sold substantial amounts of crude oil and gasoline to the Standard of New Jersey. This contract was terminated, however, in 1927, and Marland bought additional filling stations to take care of refinery output.

The outstanding transaction to show Standard Oil interest in the Marland Company came through the purchase of Marland stock by the banking house of J. P. Morgan & Company. This stock has been reported as bought for the joint account of the Standard Oil Company of New Jersey and the Standard Oil Company of New York.

One visit of Standard Oil Company of New Jersey officials to the Mid-Continent was the occasion for a stop at Ponca City and an inspection of some of the Marland properties.

With this condition existing, the resignation of Dr. van der Gracht from the Marland organization has been interpreted as meaning that the Standard has gained further interest in the Marland organization.

But the resignation of W. H. McFadden can hardly be looked upon as indicating anything of that sort. McFadden was one of the early backers of E. W. Marland, and the petroleum industry holds no opinion that his influence was on the side of Roxana, provided the Marland holdings are part of the battle ground for Standard-Shell tilt.

In some quarters it is thought that McFadden, having made his way in two industries, steel and oil, choose to retire and enjoy the fruits of his labors.

Other resignations and shifts in the Marland organization are predicted. Consequently it is possible to hear expressions to the effect that what is happening in the Marland organization has no relation to any Standard-Shell controversy. Many think there is a reorganization under way in the Marland companies.

Low prices of refined products have brought many concerns face to face with the necessity for adjustment to meet conditions. So many contend that the changes in the Marland organization are but a move to shape the affairs of this concern that its operations will be more profitable.

All of this is pure conjecture. The petroleum industry knows of resignations within the Marland executive staff. It hears of others. Consequently it wonders. In wondering, it expresses opinions. Hence the rumors.

Van Der Gracht Leaves Marland Company

Ponca City, Okla.—Dr. W. A. J. M. van Waterschoot van Der Gracht, vice president in charge of operations outside of Oklahoma for Marland Oil Company since 1922, announced his resignation from the company January 27, and his plans to leave with his wife two days later for their old home in Amsterdam, Holland. His resignation marked the second high official of the Marland to leave the company within two days, his resignation following within that time the quitting of W. H. McFaddin, vice president and general manager of the company.

While no definite announcement has been made as to Van Der Gracht's future plans, reports are out to the effect that he will return to Canada after a short stay in Holland to take charge of geological exploration work now being done in the Hudson Bay region by the Marland Company.

McFadden Retires

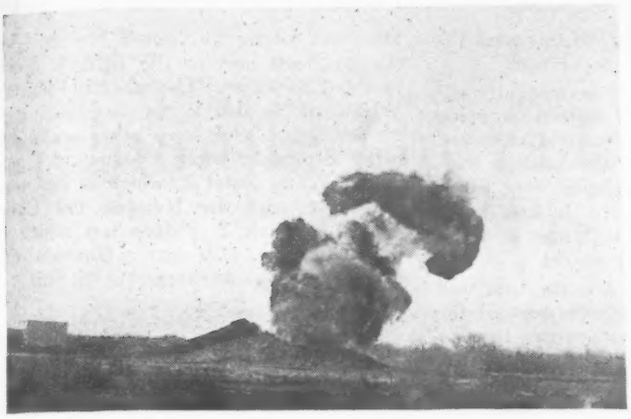
Ponca City, Okla. — Retirement of W. H. McFadden, vice-president in charge of operations of the Marland Oil companies, late in January marks the close of his career of 17 years actively spent in Mid-Continent oil circles. That he will continue to serve the company as a director and a member of the executive board has been announced. He held the longest service record with the Marland organization, except President G. W. Marland, founder of the company.

Marland Moves More Ft. Worth Men

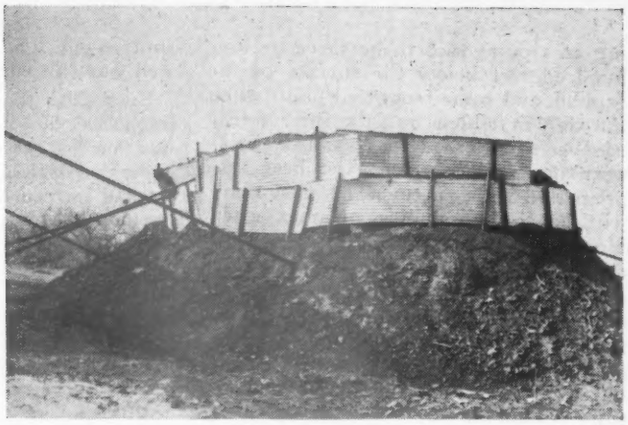
Fort Worth, Texas.—Removal of a number of department heads and employes of the Marland Oil Company of Texas from Fort Worth to Ponca City, Oklahoma, has been completed as part of a general program of consolidation. Marland's office force in Fort Worth has been materially reduced through the transfer of the production, engineering, material and accounting departments to Ponca City. However, complete geological, land, engineering and legal departments will remain in Fort Worth, with W. A. Moncrief, vice-president, in charge.

Officials transferred to Ponca City include the following: I. G. Harmon, vice-president in charge of production; Chas. E. Geddes, superintendent of drilling and production; F. E. Richardson, chief construction engineer; E. O. Bennett, petroleum engineer; A. L. Austin, manager material department, and J. O. Lintner, auditor.

J. B. Moncrief, assistant to the vice-president in charge of production for the Marland Oil Company of Texas, is being transferred to New Mexico to assume charge of a field office to be located at Carlsbad. Marland is drilling two wildcats in that State, and a half dozen more are planned to be drilled this spring in Eddy and Lea Counties, where approximately 500,000 acres of land has been leased.



Saxet Oil & Gas Company's Rachal 7, still flowing after being on fire more than ten days



Protection of dirt and galvanized iron around Houston Oil Company's Humble 1

One of the old craters—Gulf's Rachal 2. This crater is about 200 yards wide and 60 feet deep.

Cratered Gasser Lowering Pressure In White Point Field

By JACK LOGAN
Staff Representative

CORPUS CHRISTI, Texas—Sullen and fierce, emitting a lake of fire that made curious spectators keep their distance, the flaming crater in the White Point gas field near here was still blazing early this week, although several attempts had been made to extinguish the fire by explosions of nitro-glycerine.

The crater was formed when the Saxet Oil & Gas Company's Rachal 7, a producing gas well in the heart of the field, blew out about January 15, and the fire was started shortly after the blow-out.

Wild and spectacular, the crater forced itself upon the attention of the public, and it has risen up as a grim warning to those interested in the production of natural gas, emphasizing the fact that drilling and operating gas wells is delicate and dangerous work, requiring the best of materials and workmanship, and the exercise of minute precautions. For through this crater millions of cubic feet of gas have been wasted, and damage to the field may be another result to be reckoned with.

In the White Point field there are three producing sands, the approximate depths of which are 1950 feet, 2350, and 2560 feet; and from all three sands there are 19 wells that are producing. The production of the Rachal 7 is from the middle sand, the best of the three. From that same sand about 12 other wells of the field are also producing, and soon after the crater was formed the pressure started dropping on all these wells, going down at an alarming rate. It is true, however, that the decrease of pressure was due in part to the fact that these other wells were drawn upon more heavily than usual, in the effort to conserve gas which might otherwise feed the flames of the crater.

The volume of gas going up in flames from the crater is estimated at 40,000,000 cubic feet a day, or approximately the amount ordinarily taken from 20 wells, for it is considered unsafe and unwise to allow these wells of Southwest Texas to produce more than 2,000,000 cubic feet a day, since the production is from loose, unstable sands.

Big Money Loss

Figuring the gas at 5 cents per 1000 cubic feet, the price paid at the wells in various fields of this section, the actual loss of gas amounts to $2000 a day for each day following the blow-out. At that rate the total loss up to the early part of this week was nearly $30,000, for the well had been wild for about two weeks by then. Delivered to the consumers in Houston, this gas that burned in the crater during the two weeks would have sold for approximately one-half million dollars. And it remains to be seen how much more gas will spend its energy uselessly by burning or by blowing into the atmosphere or the sands of the field.

Aside from the waste of gas, it is feared that the crater will give rise to other loss through the tearing down of the sand from which the gas is coming, due to the sudden and violent release of the pressure sustaining it. And since the gas is blowing from the cas-

ing at a point said to be three or four hundred feet below the surface of the ground, and came from that point when the well first blew out, the further fear has been expressed that shallow sands near the surface may have been impregnated with gas, in which case there will be the possibility of unexpected blow-outs at shallow levels in wells drilled in the field in the future.

This well that has formed the crater is located on the north end of the Kate Dunn 200-acre tract, near various other producers in the field. It is only about 150 feet from the Houston Oil Company's Humble 1, a producing well, around which an embankment of dirt and galvanized iron has been built as protection against the heat from the flaming crater.

Cause Not Determined

Before it cratered, the Rachal 7 was producing gas for several months, sending it into the line of the Houston Gulf Gas Company.

The cause of the blow-out has not been determined. The first indication of it was made when gas started blowing out of the ground about 25 feet from the well. An effort was made to kill the well by pumping Baroid into it, first through the casing and later through the tubing; but in each case returns were obtained in a very short time, showing that both the tubing and the casing were cut, the time for getting returns indicating that the vent for the gas was from 300 to 400 feet below the surface. As stated before, it is not known exactly what caused the blow-out.

The hole in the ground through which the gas first began escaping rapidly widened, blowing out a trench toward the well. When the hole reached the well, the Christmas tree fell over, and a spark ignited the gas. At first the pressure was comparatively small, but increased rapidly.

After the well had been burning for several days, "Tex" Thornton, of Amarillo, professional gas well fire fighter, was called to the scene of the conflagration, and donning helmet, suit and shoes made of asbestos, he ventured to the rim of the crater, looked into it and found that the entire abyss was filled with fire, the flames coming from several hundred feet below the earth's surface.

Under his instructions a four-inch water line was laid from Nueces Bay, several miles away, and water was turned on the crater on Thursday, January 26, in an attempt to cool its walls and the surrounding ground. Twenty-five pounds of T. N. T. were exploded in the crater late that day, but with no noticeable effect on the fire. The water lines caused the generation of steam, however, and on Friday the well was not burning as fiercely as previously. On Friday night Thornton shot the crater with 40 quarts of nitroglycerine and put the fire out, but within five minutes the gas caught fire again from the red hot walls. Several hours later the shooting was repeated and again the gas ignited after the fire had been snuffed out. On Monday of this week the well was still burning.

Even after the fire is permanently extinguished, however, the work of stopping the flow of gas will be only started, and experienced field men who saw the crater and learned of the depth from which the gas is escaping, were dubious as to the success of efforts that may be made to get the gasser under control.

Although the Rachal 7 is the first well that has cratered in the new part of the White Point field, it is not the first of the district. In the old part of the field, east of the present producing wells, five wells blew out and cratered during the activity in that section more than a decade ago. In that old part of the field about 22 holes were drilled. Those other than the five craters were either dry holes or produced gas in non-paying quantities.

Development of Field

It was not until last summer that the activity began in that part of the field on which the present producers are located. These wells are on the north side of Nueces Bay, being farther up the bay. There are now 19 producing wells in that part of the field. The proven area is a strip about 8000 feet wide and 12,000 feet long, and the strip is expected to be both widened and lengthened.

In fact a well which was completed in Nueces Bay a little over a week ago points to a probable connection of the White Point field with the Saxet field across the bay, where there are several producing wells. The wells at Saxet furnish gas to Corpus Christi and Robstown.

The new producer between the two fields is the State Land 1 of Perry, LaPrelle & Reed. It is the first well brought in in Nueces Bay, and is the largest in the district making dry gas. It is about 300 feet from the shore line of the White Point side of the bay, but is considerably farther from the nearest White Point producer. It is about 21,000 feet from the nearest producer of the Saxet field. The bay is about 13,500 feet wide at the point where the field crosses it.

The Perry well is 2563 feet deep. The work on it was carried on from platforms, the water surrounding it being about three feet deep. The gas is entirely free from water. The Edwards flow tester was used in testing the well, and showed a rock pressure of 1200 pounds, which indicates a volume of from 50 to 60 million cubic feet a day.

There are two pipe lines leading out of the White Point field, that of the Houston Gulf Gas Company and that of the Houston Pipe Line Company. Both of them lead into main lines extending to Houston and vicinity, joining the larger lines near Refugio.

The Houston Gulf Gas Company first started running gas from White Point about July 7, 1927. It is taking production from wells owned by the Nueces Production Company, Mission Drilling Company and the Saxet Oil & Gas Company.

Two wildcat tests are being drilled in the White Point district. One of these, Mission Drilling Company's Morris 1, in the northeast part of the field, is down to about 2800 feet. The other is Pickett's Whitworth 1, also in the northeast part of the field. Only two other wells are being drilled: Nueces Production Company's White Point 2, which is down to 2180 feet; and the Houston Oil Company's Ragsdale 2, a deep test which is drilling below 4010 feet. Houston Oil Company is also working over its Sun A-1 and Sun A-2.

Early History of Field

The first drilling at White Point was undertaken in 1904, on the strength of gas showing in shallow water wells and the presence of native sulphur on the surface. The first two wells of the area were drilled by Randolph Robertson in 1904, but he was unsuccessful. In 1905 Lee Hager drilled to 1200 feet near Robertson's wells, but found no showings.

Dr. Redmond, who had first found indications of gas in the district, and who had been concerned in the drilling of the wells by Robertson, was instrumental in forming the White Point Oil & Gas Company, which drilled its No. 1 in the district in 1911. That well was abandoned at 1900 feet, having had a gas blowout. The next well of the company, the No. 2, was lost by cratering, its depth being 2160 feet.

In 1915 Gulf Production Company became interested in the field. Its No. 1 test on the lease of the White Point Oil & Gas Company was abandoned at 1857 feet. The No. 2 was drilled to 3129 feet and cratered; this was an immense crater—as shown in an accompanying illustration. It was estimated to be making 100,000,000 feet of gas a day when it blew out. Gulf's No. 3 was completed in July, 1916 as a 15,000,000-foot well. But Gulf quit drilling on the lease then, and it reverted to the White Point Oil & Gas Company in 1917. In 1919 this company made a five-year contract with the Taft Industries to furnish gas to the town of Taft, and the first commercial production of the field dates from that time.

Open Tax Office

Tulsa. — An organization that will limit its activities to general tax matters as relates to the petroleum and other industries has been formed here under the name of Campbell, Collard and Barrett. While such organizations are well known in Washington it is believed that the Tulsa firm is the first in the Southwest to restrict itself to this class of legal practice.

Mr. Campbell, a former resident of of Tulsa, returned here in June of 1925 and soon thereafter organized the National Petroleum Engineering Company with offices in the Atlas Life building. Mr. Collard has been active in tax practice in Tulsa for some time and Mr. Barrett has been associated with Mr. Campbell for more than two years. All three men are former executives of the United States treasury department in Washington.

Seminole Curtailment Plan Extended To April 1

Decision to prolong period of agreed restricted output comes at time when wells are falling rapidly and development is slack

By WALLACE DAVIS
Staff Representative

TULSA.—The reins of restriction will not be slackened at Seminole until April 1, it was officially concluded Monday when operators met with the committee on proration to consider new moves on handling the market breaking area. A gist of the group's decision is that the newly discovered production spots looming as probable sources of future danger to the market including wildcat producers in section 7-8-6, section 24-9-5, section 16-8-5 and section 14-8-5, will be held undeveloped until the above named date; that development of the recently opened areas in the general vicinity of Little River field will be determined at a later meeting, date of which has not yet been set, and that production from the entire territory will not be allowed to increase beyond handling facilities, the latter clause instituted as safety against a possible come-back in production not now indicated.

This conclusion of operators and members of the proration committee is seen to be wise as has been their past moves, for, while a general decline in the Greater Seminole territory is now thoroughly evident, it is also evident that Seminole's figure even in its decline remains a disturbing factor against the weak market.

At the later meeting named for the purpose of thrashing out problems concerning the wisdom of going ahead with development of such wildcat discoveries as Independent's Harris 1, section 22-7-6; Mid-Continent's Smith 1, section 5-7-7; Snowden & McSweeney's Tiger 1, section 13-7-6, and Gypsy's Cinda Brown 1, section 33-8-6.

It is probable that consideration will also be given to the shooting of wells within the proven area of Little River, this move having been held up heretofore except for possibly a few special locations. Decision to possibly allow development in the Little River territory within the near future, or at least before the abandoning of restrictive measures in other areas, grows out of the likelihood of less danger around Little River, the theory being that the nearby discoveries likely have the weakness found in inside locations of the pool, such as water intrusion and rapid decline due to weaker gas pressure.

Decision to continue shutdown agreements at Seminole until the stipulated later date adds materially to an optimistic market future, especially since the decision comes at a time when the area's total production is undergoing a marked drop. With this drop coming during a period of ideal working conditions, as, for instance, good weather, it appears to be the marks of permanent decline over weekly periods. While fluctuations continue to come from day to day, and in many cases without obvious reasons, the production over a perjod of a week has been continually dropping for some time.

New Low Level

Production at Sunday morning's gauge of the six pools, the township 8-5 area being added as Maud field, showed a new low level with 326,423 barrels, five barrels below the figure for January 2, at which date the severe cold snap drove production down 25,000 barrels in two days. One of the cases of fluctuation came with Monday morning's gauge, when the yield increased to 330,523 barrels, while only one well was added to the producing list. Production in the six fields at the gauges on January 29 and 30 are as follows, with the number of producers by fields:

	January 29		January 30	
Field—	Wells	Prod.	Wells	Prod.
Little River ..	95	35,940	96	37,115
Bowlegs	305	97,569	305	97,441
Earlsboro	291	115,150	291	117,128
Seminole City	319	58,833	319	59,526
Searight	71	18,748	71	19,109
Maud	2	183	2	204
Total 1,083		326,423	1,084	330,523

In the face of the increase Sunday of more than 4000 barrels, the total shows a loss of 8,185 barrels during the past seven-day period and with nine additional wells added during the week, the well average for the six fields registered a decline of 11 barrels from 315 to 304 barrels.

I. T. I. O. Wildcat

Indian Territory Illuminating Oil Company's School Land 1 wildcat, in the southeast of the southeast of section 16-8-5, which has been in the limelight for two weeks as first a potential major pool opener and later as a failure with water encroachment January 22 in Wilcox pay at 4299-4306 feet. During the latter part of the week the hole was plugged back to the Simpson, bottoming at 4290 feet, and produced 183 barrels Saturday and 204 barrels Sunday. Barnsdall's Fife 1, wildcat discovery in the northeast of the northwest of section 14-8-5, was shut in over the week-end, it being opened weekly to flow its full week's production amounting to approximately 100 barrels daily. The Maud pool's biggest day's production came last Thursday when Barnsdall's Fife 1, opened 12 hours, flowed 700 barrels, while I. T. I. O.'s School Land 1 made 377 barrels after plugging back to the Simpson and shutting off water.

New activity in the edge territory of Greater Seminole attracted considerable attention during the past week. Mid-Continent Petroleum Corporation's No. 1 wildcat, located in the center of the northeast of the southwest of the northwest of section 29-10-9, has found oil pay in the Hunton lime in this district where gas alone has previously been found. The well was making 200 barrels of oil and five barrels of water from Hunton lime at 3897-3901 feet Monday, the crude about 38 gravity. Shaffer Oil & Refining Company's Kette-quah 1, wildcatting in the southeast corner of section 12-10-3, west of Shawnee, Pottawatomie County, got 4200 feet of water in the hole after finding a small amount of heavy oil in sand at 4565-4604 feet early in the week, along with 1,000,000 feet of gas. A second sand was found at 4680 feet, and at 4712 feet the water appeared. I. T. I. O.'s Wiseman 1 wildcat, in the northwest of the southwest of section 32-7-7, was drilling at the end of the week at 4735 after showing oil at 4712 feet in the Wilcox topped at 4700 feet. Sinclair and Darby Petroleum Company's Johnson 1, in the northwest of the southwest of section 5-7-7, five miles north of the Wiseman test, found oil at 4444 feet, and was drilling ahead.

I. T. I. O.'s Nitey 3, in the northwest of the northeast of the northeast of section 2-7-6, Little River, swabbed 300 barrels in 22 hours Sunday from Wilcox at 4492-95 feet, the only well completed at Seminole over the week-end. Magnolia's Davis 4, in the northwest of the southwest of the northeast of section 13-8-6, Bowlegs, had 200 feet of oil in the hole while drilling at 4180 feet in the Viola lime, topped at 4112 feet.

Activity Declining

Activity continues to decline in the Seminole area with only 124 operations last week, including six locations and 15 rigs up. There were 13 wells shut down. Seventy-one of the 103 wells

drilling were below standardized depths and due for completion within the next few weeks. With an average of less than a hald dozen new locations being added weekly, the rapid drop in activity is obvious. Bowlegs led in activity with 50 operations, Earlsboro second with 38, Little River had 27, Searight, eight, and Seminole City, one.

The present gradual decline in the area comes principally from weakened gas pressure and failure of wells on air and gas to continue holding up under this production method. A large number of pumping units is seen moving into all of the fields, and it is the prediction of operators generally that most of the wells will be on the pump within the near future. The extent of substitution of pumping units for compressors at this stage cannot be determined even to approximate figures.

Kansas

A new discovery of outstanding interest in Kansas early this week was in Stearns-Streeter's Mermis 1, in the southwest of the northwest of the southwest of section 33-13-15w, in the old production area of Russell County, where 65 barrels an hour was being swabbed Monday from the base of the Oswald lime. The Oswald, where much of the oil in this area is found, was dry in this well from 3062-3302 feet, and it was in the basic conglomerate that 36 gravity oil with no water was found. It is expected to mean the deepening of old producers as the drilling of other new locations to this horizon.

A new interest is revealed at Burbank with Lewis Gas Products Company's first strike on their recently purchased lease in township 26n-6e. No. 1 well drilled in the northwest of the southwest of section 2, was flowing 35 barrels an hour Monday, pay being topped at 2812 feet, and drilling continuing at 2850 feet. Lewis Gas Products Company paid $600,000 for this quarter, the highest bonus paid at the December 12 sale of Osage Indian lands. The sand was topped at 2795 feet.

Logan County

In northwest Logan County, the Mid-Continent's deepest production, Wentz Oil Corporation's Williams 1, found water late last week at 6277 feet, and will abandon.

Location in the northeast corner of section 31-19-4w, and a direct offset on the west to Roxana's Williams 1, which was swabbing 80 barrels of oil and which was being agitated for probable increase. Ross 1 of the Roxana, located in the northwest corner of section 29-19-4w, was making around 550 barrels daily with two feet of pay topped at 6048 feet. Welch, Acton & Brown's Hull 1, in the northeast of the southeast of section 11-18-4w, south of the Roxana pool, last week entered a second sand at 5700 feet, and at five feet in was making 105 barrels daily. Production has been steady in a small way from an upper sand found more than a month ago, and the present yield is reported coming from both sands, including the shallower Layton formation formerly found productive. Drilling is going ahead as was the case after the productive Layton was found to produce, and the object of the operators is the pay in which Roxana's northern discovery well found strong production.

Natural Gas Department of American Gas Association Meets at Dallas

Dallas, Texas—The Natural Gas Department of the American Gas Association will hold its annual convention and exhibition at the Texas fair grounds in this city May 7, 8, 9 and 10. The exhibition will be in the Manufacturers Building, and the meetings will be held in the Fair Park Auditorium.

A record breaking meeting and exhibition are expected, according to the convention call issued by N. C. McGowen, of Shreveport, Louisiana, chairman of the Natural Gas Department. This is the first annual meeting of the natural gas men since the recent amalgamation with the A. G. A.

Intensive preparations for the convention are now underway. Dallas is anxious to eclipse all past meetings, and is making every effort to outdo Cincinnati, where the 1927 convention was held.

The exhibition committee of the department, through its chairman, H. L. Montgomery, of Bartlesville, Oklahoma, has announced that more space will be available for exhibits than in the past, and that present indications point to not only a larger number of exhibitors, but also a much larger amount of space occupied by the manufacturers.

The members of the exhibition committee, working under Mr. Montgomery, are: C. C. Cartwright, Ft. Worth, Texas; T. C. Clifford, Pittsburgh, H. N. Greis, Tulsa, E. F. Schmidt, Dallas, and H. L. Whitelaw, New York.

Coincident with the intensive preparations and plans being made for the exhibition are the activities of those in charge of the other important features of the convention.

The committee on papers, under the chairmanship of L. K. Langdon, Cincinnati, has asked all natural gas men to submit their suggestions for the program of the meeting. Every natural gas man is being urged to suggest topics and speakers.

The other members of this committee are John H. Maxon, Muncie, Indiana, and Frank L. Chase, Dallas, Texas.

The committee on arrangements consists of H. C. Morris, Dallas, chairman; Fred M. Lege, Jr., Dallas, and Charles B. McKinney, Houston.

Austin County Producer Flowing by Heads

Houston—Flowing by heads at intervals of about 20 or 30 minutes, Humble Oil & Refining Company's Gotosky 2, first deep test in the Raccoon Bend district, Austin County, was completed on Tuesday of this week for an initial yield of 300 to 500 barrels of oil. The production, which is coming from a total depth of 3279 feet, is black gummy oil which tests 20 to 21 gravity. The exact amount of the production had not been determined Tuesday night after the well had been flowing for a day, as there was no way to gauge it. The oil was flowing into a pit.

This well was completed under difficulty, due to the fact that it had been started with the intention of drilling only a shallow test, about 1000 feet deep. After reaching that level it was decided to go deeper, and the hole was carried on down to the present depth, with the result that the hole is unusually small. The oil is now flowing through four and one-half-inch pipe.

The new producer is about three-quarters of a mile south of Humble's Walton 1, discovery well of the area. The discovery well made a spray of oil together with about 5,000,000 feet of gas from 1032 feet when it was completed in February, 1927; and the first oil production of the area was obtained when Humble Oil & Refining Company completed its Thompson 2 the following April as a 35-barrel well at 1007 feet, the oil at that depth testing 17½ Baume gravity, being of high viscosity and dark in color.

Since these first wells were drilled Humble has kept two or three rigs busy in the district at all times, and numerous tests have been drilled to about 1000 feet. Several gas wells were completed, making about 15,000,000 feet a day, and one other test besides the Thompson 2 was a small oil producer; it was the Woodley 1. Various tests were abandoned in the district as failures, the depths all being around 1000 feet.

During the past week Humble abandoned its Stravoski 1 in this district, the depth being 1350 feet. Humble has just started drilling a new Raccoon Bend test, the Wilson 1.

Other wildcat operations in Austin County now include Alexander & Lyles' Goebel 1, which is drilling hard sand around 2440 feet, and L. H. Weadock's Ward 1, drilling gumbo at about 730 feet.

The Raccoon Bend field is approximately 12 miles due east of the town of Bellville, near the Bellville-Hempstead road, and is bordered on the west by Ives Creek.

No use is being made of the gas from the producers of the area other than for fuel in the drilling operations of the field.

California Fields Have Quiet Period

Important tests are hanging fire in three principal fields but nothing has developed; mechanical troubles hold up wildcats

By BRAD MILLS
Staff Representative

LOS ANGELES—Aside from routine developments in the Long Beach, Seal Beach and Rincon fields, California has just experienced a comparatively quiet week. Important tests are hanging fire in all three areas, but none took a definite form during the week. At least two wildcat areas are making bids for recognition, but mechanical trouble prevented a thorough test.

It is still too early to place a definite value on the newly discovered deep sand at Seal Beach. The thickness is sufficient to warrant a good volume of oil and the gas pressure apparently is great enough to flow the wells. At a depth of more than 6000 feet, however, very large wells are needed to offset the cost of drilling and to bring an additional return on the investment. The bitter experience of many operators who developed their holdings in the Alamitos Heights or townlot will not soon be forgotten. They obtained a large flush production in many instances, but the sudden decline left them high and dry. The memory of those losses will do much to prevent, or, at least, prolong another orgy of townlot drilling, it is believed. The greatly increased depth adds to the drilling expense, making necessary a much larger production than was found in either the Selover or Wasem sand.

Will Not Be Able to Deepen Many

Not more than half of the 100 producing wells are in a condition to be deepened. It is not thought that many new wells will be drilled, even if the deep sand proves especially productive. A few wells are standing between producing sands, and these may be taken to the lower levels, where possible. Any prediction as to what will happen resolves itself into nothing more than guesswork.

The Richfield Oil Company's Bonner 1, which was the first producer completed in the new sand, came in with an initial production of only 600 barrels. The company was not satisfied with the action of the well and ran a string of 2½-inch tubing to 6100 feet. On the second production test the well flowed at the rate of only 450 barrels. About 200 feet of sand was cemented off to eliminate any danger of water, leaving only 175 feet from which to produce. The top of the formation was found at 6100 feet. Total depth is 6460 feet. The oil is 30.9 gravity, and is absolutely clean. The casing pressure is 580 pounds and the tubing pressure 120 pounds. The company probably will place the well on the compressor.

The Marland Oil Company's Selover 16, which first encountered the deep sand, failed to perform satisfactorily on the initial production test and has been recemented. A good circulation was established, indicating that the original cementing job was defective. The well was drilled to 6608 feet and has about 550 feet of good oil sand. When tested two weeks ago the well flowed at the rate of 1800 barrels, but production was more than one-third water. Marland's Selover 11, another deep sand test, has been drilled to 6620 feet and is showing much promise. The 4¾-inch oil string is being cemented on top of the sand and a production test will be made within a week.

Long Beach passed through a very quiet week, having had a difficult time holding all the attention it has attracted during the past few months. With about 75 wells drilling for the deeper levels, the lull should not exist for many weeks. At least six wells should be completed within two weeks, but mechanical trouble may enter into the situation. The operators are finding it a much more difficult matter to complete wells around 6000 feet than near the old level of 5200 feet. Greater care must be exercised, while an additional 800 feet of hard sand completely changes the situation. The Pan-American Petroleum Company recompleted Anderson 2 as a 550-barrel well at 6200 feet. The oil was 30 gravity and cut less than 2 per cent. The well was one of the smallest of the deep sand producers, having been completed in the east end of the field. Dabney-Johnson's Casenave 4, while not officially completed, is flowing at the rate of 1800 barrels and may be allowed to produce in its present condition. A preliminary production test was made, and the well started flowing at a high rate. The well was drilled to 5515 feet, with a string of 6¾-inch casing cemented at 5146 feet.

Water Problem Solved

The Pan-American Petroleum Company has at last solved the water problem in its Hobson State 1, the discovery well in the Rincon field. After three months of work, it was found that the casing was defective. Necessary repairs were made to the casing, and the well started flowing at the rate of 600 barrels. Production is coming from only 12 feet of sand. The oil is 31 gravity and cuts about 2 per cent. The Chanslor-Canfield Midway Oil Company's Hobson C-1 and Hobson C-2, recent completions, are not performing satisfactorily, and may be placed on the compressor. Their combined production is less than 500 barrels. The Miley Oil Company failed in its initial attempt to complete H-2, and will recement the 11¾-inch water string. The well was drilled to 2964 feet, with the 11¾-inch casing cemented at 2930 feet. The sand was picked up much deeper in the Miley well than in the Chanslor-Canfield Midway and Pan-American completions.

Ventura

The Associated Oil Company has completed its Lloyd 44 as one of the novel producers in the Ventura field. The well came in with an initial production of 75 barrels of 45 gravity oil and a small quantity of gas. After producing for two days, the well ceased action entirely. Total depth was 6390 feet. The extremely high gravity of the oil indicated that production was coming from an upper sand, rather than the formation near the bottom of the hole. The well did not act in any respects as a Ventura producer should act. A large percentage of the total production was water, the gas flow was far too small, the gravity was much higher than the average, and most of all, the well should not have died. Ventura producers are noted for their consistency, and rarely fail to increase in production during the first week. Mechanical troubles probably caused the well to cease flowing. The water string was cemented in the regular manner, but may have failed to hold. The Shell Company's Edison 18, which was recently completed below 7000 feet with an initial production of 3400 barrels, is still performing satisfactorily. The well broke all records at such a depth, having been the first significant completion below 7000 feet. With nearly 2000 feet of oil sand, the production decline will be very slow. The move to conserve gas in the Ventura field is beginning to assume a more definite form. A committee of prominent oil men has been appointed to study the situation. Ventura wells produce a large quantity of gas and present facilities in the field are inadequate to handle the surplus of dry gas.

After seven months of doubtful drilling, during which the ultimate outcome did not appear exceptionally bright, the Round Mountain field is again attracting wide attention. The Honolulu Consolidated Oil Company, which recently acquired the Elbe Oil Company's government permits, has completed its first well —No. 1, which is producing at the rate of 600 barrels. The well is located on section 20-28-29, and only a short distance from the Elbe discovery well, which came in last summer with an initial production of 500 barrels. The new producer was completed at 2090 feet, ad in many respects is similar to the discovery well. The Shell Company is still wrestling with a

combination of troubles in Elbe 6, which was originally drilled to 3760 feet. The well has been plugged back to 2000 feet but does not offer much promise in the sand which is productive in the first completions.

Four wells were completed during the week in the Kern Front field. The General Petroleum Corporation completed Nos. 16 and 31, on the Sill lease, each with an initial production of 150 barrels. The former was finished at 2235 feet, while the latter was a comparatively shallow producer at 2045 feet. George F. Getty, one of the most aggressive independent operators in the field, completed Grady 7 as a 100-barrel producer at 2250 feet. The well was the smallest of a long series of successful completions. Getty fared much better in the completion of his H. L. 1, which came in with an initial production of 160 barrels. Several new locations were made in the field during the week, indicating that the area will be active for several months.

The Huntington Beach field presents a rather dull appearance, when compared with its status of a year ago. The townsite sector is more active than the beach area, although the latter has a few wells due for completion in the deep sand. J. A. Brower's Traveler 1, which staged a somewhat spectacular blowout a few weeks ago, has been placed on the pump but is not producing satisfactorily. The well is just outside the southeast line of production and is pumping water, mud and oil from a total depth of 5355 feet. After a two months suspension, the Calnan Petroleum Corporation is again working on its wildcat well, northeast of the townsite sector. Oil showings were logged around 4575 feet, but no test was made. The Miley Oil Company took charge of operations and deepened the well to 5107 feet. Nothing of importance was found below the original showings. The Calnan interests will test the formation between 4560 and 4600 feet. Soon after the announcement that an oil sand had been found, many of the larger companies acquired adjoining leases at fency prices. The Standard Oil Company's Thompson 8, a deep outpost near the southeast part of the beach area, is drilling below 5600 feet, with only a hard, gray sand in evidence. The well is a very important test and now the deepest in the entire area. Two average completions were recorded in the townsite sector, one a shallow producer and the other an average well in the intermediate sand. Duncan and Lee's Townsite 3 was completed with an initial production of 185 barrels from 2108 feet. The well was above the average for tar zone producers. The Crudoil Company, already a successful producer in the field, completed No. 3 as a 200-barrel well at 3760 feet. Total production in the field is hovering around the 60,000-barrel mark and probably will fall below this figure during the spring.

Richfield, Brea-Olinda, East Coyote and West Coyote, which comprise the principal producing areas along the eastern edge of the Los Angeles basin, are very quiet, with only an occasional deep test to enliven the situation. The Shell Company has given its Puente A-2, a deep test in the Brea-Olinda field, a production test, but the well failed to produce at a commercial rate. Total production for the first day was only 20 barrels, of which about 10 per cent was water. The well was drilled to 5825 feet and could not be operated profitably with such a small production. It was in this district that the Chanslor-Canfield Midway Oil Company drilled its record-breaking deep test more than a year ago. Shell's Columbia 40, originally drilled to 7115 feet and later plugged back to 4375 feet, is not making a very promising showing. The company has had much mechanical trouble in this deep test. The General Petroleum Corporation has attained a depth of 4525 feet in its Wallup 1, in the East Coyote field, but has failed to encounter a promising formation below the regular producing level. Both gray sand and hard shell have been found below 4450 feet. The Standard Oil Company recently tested Yorba 1, in the Richfield area, but the well produced more than 200 barrels of water and no oil. Bottom water apparently caused the failure. The well was recemented through tubing at 3527 feet. The well was originally drilled to 3530 feet.

The Dominguez and Athens-Rosecrans fields, chief connecting links between Long Beach and Inglewood, are proving interesting in the deeper sands. The deepening of several wells in the latter area has resulted in an increased production. The Union Oil Company is drilling at 5875 feet in Callender 17, one of the deepest wells yet drilled in the Dominguez field. Brown shale and occasional streaks of oil sand make the outcome look far from discouraging. The company has not been able to recomplete Callender 1, the discovery well, which was deepened to 4185 feet. A 4¾-inch oil string, including nearly 400 feet of perforated casing, was run but swabbing did not bring the well in. The company is cleaning out and deepening three other wells in the field.

The Signal Gasoline Company has successfully completed a small well on section 8-11-23, on the Maricopa flats and in the general vicinity of the Sunset field.

Navy Department Investigating Sale of Naval Reserve Oil to Foreign Company

WASHINGTON—A federal investigation of reports that the Honolulu Consolidated Oil Company is selling oil derived from the naval reserves of the United States to the Royal Dutch Shell Company, a foreign corporation, has been ordered by Secretary of the Navy Wilbur.

Secretary Wilbur announced that he had appointed a board consisting of Rear Admiral H. H. Rosseau, head of the oil service; Rear Admiral John Halligan and Rear Admiral E. H. Campbell, judge advocate general, to consider the problem of such remedial legislation as may be desirable and necessary for submission to congress.

Secretary Wilbur pointed out that the Honolulu Consolidated Oil Company has a number of leases in Naval Reserve No. 2 at Elk Hills and that Naval Reserve No. 1 has been shut down almost entirely. The production of oil is continued in Reserve No. 2 under leases entered into by the government among other lessees including the Honolulu Consolidated Company. The secretary explained that the question involved in the disposition of the oil produced in the naval reserves to foreign corporations apparently for export to foreign countries.

"I have a long report from Admiral Rosseau in conenction with the matter," the secretary stated, "and he has made certain recommendations which I desire to be considered by the judge advocate general and also by the chief of the bureau of engineering, the three of them to form a commission to make reports as to the situation and as to possible remedies."

The action of the secretary is characterized as "perhaps the beginning of a national policy looking to the most efficient production, fabrication, distribution and use of our mineral raw materials" by M. L. Requa, general director of the Oil Division of the United States Fuel Administration during the world war.

"The problem is much broader than the mere question of oil conservation," declared Mr. Requa, "and includes the question of other minerals as well as petroleum.

"The investigation now being made by the committee of nine under the auspices of the chairman of the Federal Oil Conservation Board, is another activity in connection with this problem that is bound to bring forth some constructive ideas. It is well recognized by leading authorities that this problem of minerals is one of the outstanding problems, non-partisan in character that must be solved in behalf of public defense and national welfare.

"How pressing is the need for this solution is indicated by the fact that at the present time one-third of the oil from our naval reserves, and two-thirds of the gasoline, is now being purchased by a subsidiary of the Royal Dutch Shell, and that naval tankers belonging to the navy of a foreign power have been, and perhaps are today, loading petorleum taken from naval reserves. In other words, petroleum that should be reserved for the United States Navy has been going to foreign powers. These conditions are made possible by our neglect to formulate and enunciate a policy as related to mineral raw materials that should be done with least delay and that should become as definite and fixed a national policy as is the Monroe Doctrine."

West Texas Petroleum Convention Brings Large Crowd of Oil Men to San Angelo

SAN ANGELO, TEXAS.—Registrations for the third annual West Texas Petroleum Convention held here January 26 and 27, exceeded 600, with a representation of oil operators and company officials from all the principal producing districts in the country. This gathering of oil men is sponsored annually by the San Angelo Board of Development, and the hospitality that is extended to the visiting oil men by the citizens of San Angelo is seldom equaled.

An opening session of the oil and gas bureau of the West Texas Chamber of Commerce was held on Wednesday previous to the convention, to discuss conservation of oil and gas in the West Texas fields, with W. B. Hamilton, Wichita Falls independent operator and chairman of the bureau, presiding at the meeting. Members of the Oil and Gas Division of the Texas Railroad Commission attended this gathering, and promised to support any movement directed towards conserving the petroleum resources of the State. Talks were made on this subject by Hamilton, John R. Suman, director and in charge of production for Humble Oil & Refining Company outside the Gulf Coast district; N. H. Martin, Wichita Falls operator, and W. H. Holmes, Amarillo producer and president of the West Texas Oil & Gas Association. An informal discussion was also held on the subject of mineral rights under State lands, and a review of various changes in the State laws on this matter was made by Judge J. W. Hill of San Angelo. Mineral rights under approximately 5,000,000 acres of land in the State are now involved in a case pending in the Supreme Court, and valuable holdings of oil companies on school lands and University of Texas' fee lands are involved.

The West Texas Petroleum Convention program eliminated all business sessions, and the two-day meeting carried a crowded schedule of entertainment for the visiting oil men. The proverbial "keys to the city" were handed out to each visitor upon registering at convention headquarters in the St. Angelus Hotel, and entertainment in any form desired was at hand. Golf tournaments and trap shoots were held each day, with attractive prizes for the winners. A cabaret dinner and dance was given on the roof garden of the St. Angelus Hotel on the opening night.

C. C. Duffy of Abilene topped the list of visitors in the trap shoot, with a score of 41 hits out of 50 targets, and Eugene Mays, San Angelo operator, led the local shooters with a score of 43. About 75 participated in the shoot. Al H. Badger, San Angelo golfer, carried off medal honors in the 18-hole tourney, but relinquished the trophy to C. B. Edwards, Lufkin, who had the lowest gross score among the visitors.

Adhering to the usual custom of providing game food for the visiting oil men, the entertainment committee staged a barbecued buffalo luncheon at the Country Club Friday, and choice cuts of buffalo were served at a stag dinner the following evening. Vaudeville entertainers were imported from a distant point for the stag affair, and a dance marked the closing event of the meeting.

R. P. Ricker, chairman of the oil and gas division of the San Angelo Board of City Development; Dwight L. Hunter, chairman of the entertainment committee; W. D. Holcomb, mayor; Herbert O'Bannon, banker; Houston Harte, publisher, and other citizens were on hand day and night seeing that the visitors enjoyed San Angelo's hospitality.

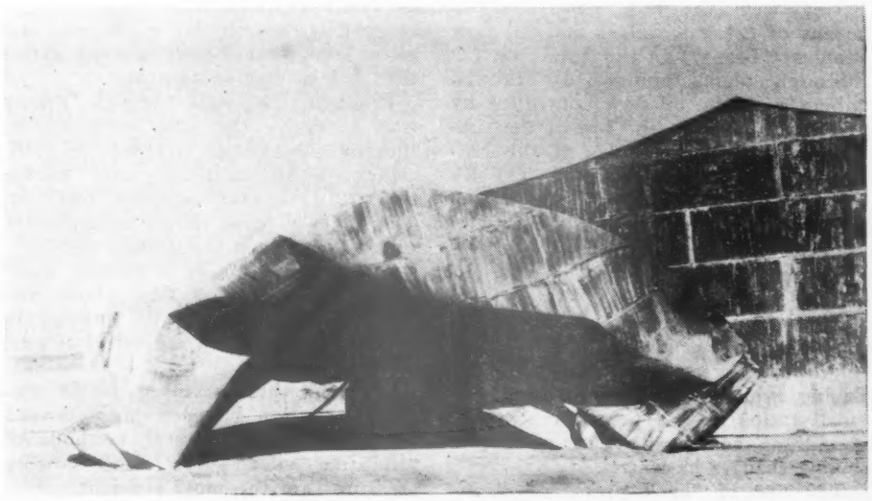
Airplanes were used by some of the oil men in attending the convention from distant points, while several hundred made the trip in cars to follow up with a tour of the West Texas oil fields. L. P. "Pink" Hammond, Wichita Falls producer and drilling contractor, used his private plane in making the trip, while the Skelly Oil Company dispatched its plane from Tulsa, bearing Glenn Condon, publicity director, and A. L. Cashman, land department.

Cause of Tank Explosion Not Determined

San Angelo, Texas.—Efforts to trace the cause of a recent explosion and fire in an 80,000 barrel steel tank on the Reagan County Purchasing Company, Inc.'s crude tank farm at Marland, located near the Big Lake field, did not reveal information that would permit steps to be taken to eliminate such accidents. The tank blew up a few moments before a gang of eight men were to enter and clean out paraffin and b. s. accumulation, and the narrow escape experienced by the cleanout gang resulted in a thorough study of the situation being ordered by H. J. Corcoran, president of the company.

Reagan has sixteen 80,000 barrel steel tanks on the Marland tank farm, and these tanks were built primarily to take care of Big Lake field crude purchased on contract, but some of the tanks have been used in storing lower gravity oils from Upton and Crane Counties for brief intervals. The tank that blew up is located in the southwest corner of the farm. It had about four inches of b. s. and eight inches of water when E. J. Burkman, who had charge of the cleanout gang, finished the usual steaming process, and pronounced the tank ready for the gang to enter. Burkman had just left the tank after making a personal investigation and was approaching the workmen, who were donning their boots and gas masks, when a loud cracking noise preceded the explosion that peeled the steel roof. The men scattered with the first warning, and all escaped without injury. However, the tank burned for a few hours, and is a total loss.

Several theories have been advanced as to the cause of the explosion, but none are definite. The explosion took place on the morning of January 10, and climatic conditions were normal. All crudes stored in the tank since its erection have been contaminated with sulphur, and a heavy accumulation of paraffin and rust scales was noticed on the walls and on the inside section of the roof.



SHOWING ROOF OF 80,000-BARREL CRUDE TANK AFTER BEING PEELED OFF BY EXPLOSION, WITH THE DISTORTED TANK IN THE BACKGROUND.

Increasing Oil Well Flow by Controlling Gas-Oil Ratio

THE importance of experimentation by petroleum producers with flowing oil wells in the effort to increase the recovery of oil by reducing the gas-oil ratio to a minimum is emphasized by the United States Bureau of Mines, Department of Commerce, as the results of tests in controlling the flow of certain wells in the Salt Creek field in Wyoming. Even in the most efficient well performance in this field during the course of the experiments, there was enough gas wasted for every barrel brought to the surface to lift another barrel of oil, the bureau points out.

For the last several years the oil industry has been turning more and more toward conservation and the study of related production probelms, states K. B. Nowels, petroleum engineer, in a report just issued. It is generally conceded that ultimate recovery is increased by holding the natural gas in the sand which is not needed in lifting the oil. The retained gas lowers the viscosity and surface tension of the oil and helps flow the oil from the sand.

The effect of "pinching in" or controlling the flow of oil wells in an effort to lessen the proportion of gas has never been definitely known. The general belief has been that "pinching" a flowing well causes the oil and gas volumes to be reduced proportionately, maintaining the same gas-oil ratio as before the reduction in flow was made. Studies of gas-oil ratios in many fields have shown that much gas has been wasted, insofar as its effectiveness in oil production is concerned.

The tests made by the Bureau of Mines in the Salt Creek field were designed primarily to see which of several different methods of producing flowing wells would lift the most oil with the least amount of gas. The experimental work consisted of producing the wells as follows: (1) Through casing with the flow controlled by means of (a) gate valves and (b) flow nipples ("beans") in the flow line; (2) Through plain tubing; (3) Through tubing with the oil flow controlled by (a) gate valves at the top of the tubing and (b) flow nipples at the bottom; (4) By "stop-cocking"; (5) By means of flow devices at the bottom of the tubing; (6) Through tubing and packer.

The experimental work brought out the following facts:

Most flowing wells tend toward inefficiency, or a gradual increase in gas-oil ratio, even under methods of producing which started with relatively small ratios of gas per barrel. Well conditions continually change, necessitating changes in control.

The use of "back pressure," "control," or "pinching" was limited in these tests in the Salt Creek field to securing gas-oil ratios below the open-flow casing basis, and should not be used at random in any field without studying the individual well.

Every well is a problem in itself, and the same method of reducing the amount of gas per barrel in one well will not necessarily apply to another well.

There are three classes of wells: those which yield reduced gas-oil ratios under control; those which do not; and those belonging to a middle class which have characteristics of both of the other types.

Wells of the first class will probably give results under any type of control. Wells of the second class will probably not respond at all, while those under the third classification may occasionally give a reduction in ratios; but detailed experiments would have to be performed to determine what type of control would be satisfactory.

Reducing gas-oil ratios usually means reduction in daily oil production.

Wells in the Salt Creek field of the type which would respond to control had several typical characteristics which were identified. Wells which would not respond also had rather definite characteristics.

Inefficient wells should be closed in entirely, if consistent with field conditions and policies.

The question of efficiency is probably related directly to the amounts of gas and oil, their respective velocities, and the expansion of gas. If methods of producing caused the ratio between velocities of gas and oil to increase beyond a critical point, it is believed inefficiency will result. This point probably varies in each well. Additional experimenting will be done in connection with this problem.

Casing flow and its control by gate valves usually gave inefficient results in gas-oil ratios, with a few exceptions.

Casing flow of a certain percentage of the total open flow was easier to control by flow nipples or "beans," and gave somewhat better gas-oil ratios than did gate-valve control.

Producing a well through tubing was generally the best arrangement, thereby obtaining increase of efficiency; although there were exceptions. In those exceptions, however, it is believed some tubing arrangement would have given the desired results.

There seems to be a critical point based on percentage flow above and below which a well will respond in some manner with a reduction of gas-oil ratios.

Although there seems to be no consistent relation between pressure and gas-oil ratios, in general, methods of producing which give small flowing pressures are the most efficient.

The work indicated that pressures plotted against per cent flow gave straight line curves for inefficient wells, and curves resembling hyperbolas for efficient ones.

A more complete study of this problem, with special reference to oil fields in the Rocky Mountain region, is now being made. The study of well control is in its infancy, and operators and research organizations should continue their efforts to obtain methods of producing that will give maximum efficiency under all conditions.

The results of the tests in the Salt Creek field are described in Serial 2833, copies of which may be obtained from the United States Bureau of Mines, Department of Commerce, Washington, D. C.

Hot Salt Water and Lye Used on Paraffin

Amarillo, Texas—Mid-West Exploration Company is credited with having obtained excellent results in stimulating crude production and cutting down paraffin troubles in more than a half dozen pumping wells in the Hutchinson County section of the Texas Panhandle district by injecting a hot mixture of lye and salt water to the bottom of the holes. Production of some of the wells has been almost doubled for a brief period after washing down the walls of the sandy-lime pay and cleansing the accumulation of paraffin from rods, tubing and other pumping equipment. This method also curtails the pulling of rods and tubing. The lye and hot salt water treatment is being repeated at one and one-half to two months intervals.

California Stocks Off

Los Angeles.—Announcement by the Pacific Coast office of the American Petroleum Institute that petroleum stocks in California were reduced more than 2,000,000 barrels during December caused widespread comment here among oil men, who interpreted the withdrawal as a very significant step in the right direction. The fact that storage was heavily drawn on during a winter month lends a still more optimistic tone to the California situation. Stocks of light oil decreased more than 1,102,000 barrels, while heavy oils showed a decline of nearly 800,000 barrels. Gasoline, naphtha distillates and miscellaneous stocks all showed losses during the month. The decline during the year for all stocks was 8,200,000 barrels. Total stocks at the end of 1927 amounted to 137,395,000 barrels.

Potrero

Los Angeles.—The Associated Oil Company has overcome another obstacle in its Cypress 1, the discovery well in the Potrero field. A string of 4¼-inch casing parted at 2960 feet, but was quickly repaired with a die nipple. A string of tubing was accidentally cemented in the hole, adding more trouble to the already puzzling situation. The company is now fishing for the tubing.

Two Louisiana Wells Reach Depths Below 6,000 Feet

Ohio Oil Company and Dixie Oil Company are leaders in search for deeper production

SHREVEPORT, La. — The never-ending search for new production has now entered the deeper drilling phase in the North Louisiana territory, and wells in several fields are being drilled to depths that have not heretofore been penetrated by the drill bit. This deep drilling program has been predicted in these columns upon various occasions before, being prompted by the rapidly declining production averages in the present producing fields. The present year should witness innumerable deep tests in all sections of the State.

At least two of the major operators in this section have signified their willingness to participate in a deeper drilling movement, each by having drilled a well below 6000 feet during the week. These two wells, although in widely separated sections, reached the 6000-foot level almost simultaneously. The Ohio Oil Company is credited with having drilled the deepest well in Caddo Parish when its E. K. Smith 25, located in section 12, township 21, range 15, reached 6001 feet during the week. Although this well was a failure at this depth in so far as production is concerned, it will be of inestimable value from a geological standpoint. It will not be drilled deeper, but will be plugged back to the 4300-foot level, at which depth the casing will be perforated and an effort made to complete it as a gas well.

Dixie Well

The second deep well is being drilled by the Dixie Oil Company on the Jenkins lease, in section 9, township 12, range 11, De Soto Parish. This well, Jenkins 1, was drilling around 6002 feet during the latter part of the week, with indications that it would be carried to still deeper levels. This is not the first deep well to be drilled in De Soto Parish, as two previous tests have been drilled in this area, one of which was a rank wildcat. The Gulf Refining Company drilled a 6000-foot hole near the Bull Bayou field several years ago, and Senator Ulrey is credited with having drilled a deep test on his wildcat block near Logansport, the exact depth of which is not available. Another deep test which is attracting considerable notice is one that is being drilled by the Humble Oil and Refining Company in the heart of the Bellevue shallow field, in Bossier Parish. This well is drilling below 5000 feet, and structurally, is the deepest well ever drilled in North Louisiana. This well is located upon the Humble's Bliss and Wetherbee lands, in section 15, township 19, range 11.

The Richland Parish gas field failed to break into the completion column during the past week, for the first time in several weeks. There are now approximately 21 rigs in operation in the field, however, with indications that this number will continue to be active for some time. It is rumored that the Gulf Refining Company, which completed the first gas producer in the field, later disposing of its holdings, will soon begin operations on a large block of leases that has been assembled in Morehouse Parish, located near the Richland Parish development. There was only one interesting feature attached to this field during the week, that being the sale of gas rights owned by the Louisiana Oil Refining Corporation and the Roxana Petroleum Company to Belchic and Laskey, of Shreveport. The exact terms of this deal have not been made public, but the total consideration is reported to have been close to $1,000,000.

Completion of the Gulf Refining Company's United Lands Company 4, in section 15, township 10, range 4 east, McElroy-Sorrento dome, Ascension Parish, has attracted the attention of operators throughout this section, although the well is not considered as being within the North Louisiana territory.

This is the first commercial gas well to be brought in within the State on the east bank of the Mississippi River, and it is perhaps for that reason that is receiving the attention that it is.

The well is located on the Sorrento dome, 30 miles from Baton Rouge, in the midst of a dense swamp that is inaccessible except by paths. The well was completed at 1660 feet, with an initial production of between 10 and 15 million cubic feet of gas, having a rock pressure of about 700 pounds and some oil.

Good for 4500 Barrels

No storage is available at the well, but a flow of 15 minutes indicated an estimated production of 4500 barrels per day. The Gulf will immediately start an offset to the well, to be known as United Lands Company 5, located in the same section. Completion of this well is the result of a great deal of effort on the part of this company, it having drilled two tests in this swamp prior to the completion of the present well. The first well, McElroy 1, was lost when it blew out as a gasser, later cratering and destroying the drilling rig and all surface machinery. There is reason to believe that the completion of this well will lead to a great amount of prospecting in this region, in view of the fact that the development of a gas field in this vicinity would create a gas supply within reach of New Orleans.

Two Important Tests

The Champagnolle field, in Union County, is anxiously awaiting the outcome of two important tests that are scheduled during the week. There were no interesting developments in this field up to the close of the present week. The Oilwell Corporation has casing set in its Townsend 1 at 2741 feet, immediately above six feet of sand, and expects to drill plug early this week. This well is located in section 10, township 17, range 14, only a short distance from Keene and Woolf's Gregory 1, which recently created quite a stir when it came in as a gusher well, flowing at the rate of about 2500 barrels of fluid per day, part of which was salt water, after having been swabbed and pumped for several weeks following its completion. This well is now sanded up. The Oilwell Corporation also has casing set in its Dumas 1, in section 11, township 17, range 14, at 3067 feet, at which depth it tested 30 to 40 million feet of gas and a slight show of 39.8 gravity oil, when tested with drill stem in the hole. This well will probably be bailed at about the same time as Townsend 1.

Activity in the vicinity of the Ohio, Magnolia, and E. M. Jones wells in sections 1 and 2, of township 17, range 14, has almost ceased as the result of several recent failures. E. M. Jones is making a deep test of his Crain 3, in section 2, following its failure to produce in the 3000-foot pay. His Crain 1, completed only a few weeks ago as a gusher, is now producing at the rate of 15 barrels of oil and 1200 barrels of salt water a day. Crain 2 and 3 are waiting for the installation of air lift appliances to place them on a productive basis. The Ohio Oil Company successfully completed its Crain 5 during the week, bringing it in with an initial production of 125 barrels of oil daily, from 3056 feet. This company now has six producing wells in the field from which 264 barrels of oil and 10 million feet of gas is produced. They have completed four dry and abandoned wells in the vicinity of the present producing area.

Report Gives 92,144,935,000 Barrels as Possible Oil Content of Shales in United States

By DEAN E. WINCHESTER

The following information was submitted to the Federal Oil Conservation Board by Dean E. Winchester of Denver, Colorado, in connection with its investigation of the oil resources of the United States, and was printed as Appendix Number 1 to the Second Report of the Federal Oil Conservation Board.

The Oil Possibilities of the Oil Shales of the United States

In making the following estimates I have subdivided the oil shales into three classes:

A. Tertiary oil shales of the Rocky Mountain region.

B. Devonian black shales of the Eastern States.

C. Cannel shales of the Eastern States coal measures.

Each class requires a different treatment and the basic factors influence differently the estimate of the quantity of shales which may be mined and treated at a time when average well oil is at a value of from $5 to $6 per barrel and consequently the total amount of oil it may be possible to recover from the shales.

Tertiary Oil Shales

Because of the remoteness of these shales from markets, etc., and the probable added cost of mining due to the possible necessity of using underground mining methods, I have adopted the following limiting factors in making the estimates:

1. No oil shale less than 1 foot thick is considered minable.

2. No shale which will yield less than 15 gallons of oil to the ton is considered minable.

3. No oil shale which will yield less than 3000 barrels of shale oil per acre of shale land is considered minable.

By the use of these factors it will be found that an average shale 4 feet thick and yielding 15 gallons of shale oil per ton of shale is minable, and that 1 foot of shale yielding 60 gallons of shale oil per ton is minable.

In order to be ultraconservative it is also assumed that not more than 60 per cent of the shale in the ground will reach the retorts and be treated, although in the best operations, using the most economic, wholesale mining methods, this percentage will doubtless be very greatly increased and it is not at all impossible that 95 per cent of the shale included in the following estimates will be treated.

Estimate of Oil Recoverable From Tertiary Oil Shales

State—	Total Oil Barrels	Recoverable Oil Barrels
Colorado	79,625,998,000	47,625,598,000
Nevada	6,039,000	3,623,400
Utah	42,800,000,000	25,680,000,000
Wyoming	3,044,000,000	1,826,400,000
*Total 125,476,037,000		75,335,721,000

*This estimate does not include small amounts of oil shale known or reported in the States of California, Montana and Oregon.

Devonian Black Shales

A large part of the Devonian black shales of the Eastern States are close to the surface and it will be possible to mine them by open-cut mining methods. In addition, these shales are close to markets, supplies, etc., thus enhancing their value and making it probable that thinner and leaner shales will be worked. I have therefore used the following limiting factors in preparing the estimates.

1. No shale less than 1 foot thick is considered minable.

2. No shale which will yield less than 10 gallons of oil per ton of shale is considered minable.

3. No oil shale which will yield less than 2000 barrels of oil per acre is considered minable.

4. Only oil shale which can be mined by open-cut or steam-shovel methods is considered in making the estimates.

Because of the last factor it is estimated that 90 per cent of the shale in the ground will reach the retorts for treatment.

Estimate of Oil Recoverable From Devonian Black Shales

State—	Total Oil Barrels	Recoverable Oil Barrels
Indiana	7,680,000,000	6,912,000,000
Kentucky	10,978,560,000	9,880,704,000
*Total	18,658,560,000	16,792,704,000

*No estimate is made for the States of Ohio and Tennessee, although it is recognized that there are doubtless areas of minable shale in these States.

Cannel Shales of the Coal Measures

In Pennsylvania and West Virginia and Missouri there are numerous occrences of cannel coals and cannel shales. The latter are probably nothing more than high ash cannel coals. These deposits are characteristically lenticular and local. However, there is considerable information regarding the distribution and value of these cannel shales and therefore the following estimates are made. It is assumed that not more than 60 per cent of the cannel shale in the ground will reach the retorts.

Estimate of Oil Recoverable From Cannel Shales

State—	Total Oil Barrels	Recoverable Oil Barrels
Pennsylvania . .	13,800,000	8,280,000
West Virginia ..	13,800,000	8,280,000
Total	27,600,000	16,560,000

Summary

For the United States then it is estimated that a total of 92,144,935,000 barrels (42 gallons each) of oil may be manufactured from oil shales and similar deposits. This amount is more than ten times the amount of well oil produced in all the United States from the beginning of the oil industry up to the close of 1924.

Barnsdall Absorbs Wolfe Oil Corporation

Tulsa.—The absorbing of the Wolfe Oil Corporation, a Delaware corporation with headquarters at Bristow, Oklahoma, by Barnsdall Oil Company last week gives the purchasers entire control of the 80-acre Dorsey Fife lease on which the Barnsdall-Wolfe wildcat opened a new Seminole area field three miles northeast of Maud in Section 14-8-5 early in December. Strength is also added to the operating end of the Barnsdall Company in the buy through acquisition of approximately 1000 acres of leases along the south extremities of the Seminole area, considerable acreage in Creek County having more than 100 barrels settled production, 960 acres in Winkler County, Texas, around 5000 acres of wildcat acreage in Lea County, New Mexico, and some scattered acreage in Western Oklahoma.

The Wolfe Oil Corporation has been active since organization in 1922 by H. T. Wolfe of Bristow, president of the concern. W. J. Wallace of Oklahoma City is vice-president and B. F. Caves of Bristow is secretary and treasurer.

Consideration in the deal was approximately $1,000,000, terms having been made on an exchange of stock basis between that of the buying and selling companies, which represents payment of 25 per cent premium on Wolfe Oil Corporation stock at par value by Barnsdall.

Bakersfield, Calif.—The General Petroleum Corporation is still testing its Kerwin 1, near Edison, but has been unable to ascertain the exact source of the water accompanying the oil. Total production is about 200 barrels, of which about one-third is water. The well was originally drilled to 4006 feet, but plugged back to 3800 feet. The oil corresponds to that found in the Round Mountain and Kern Front fields.

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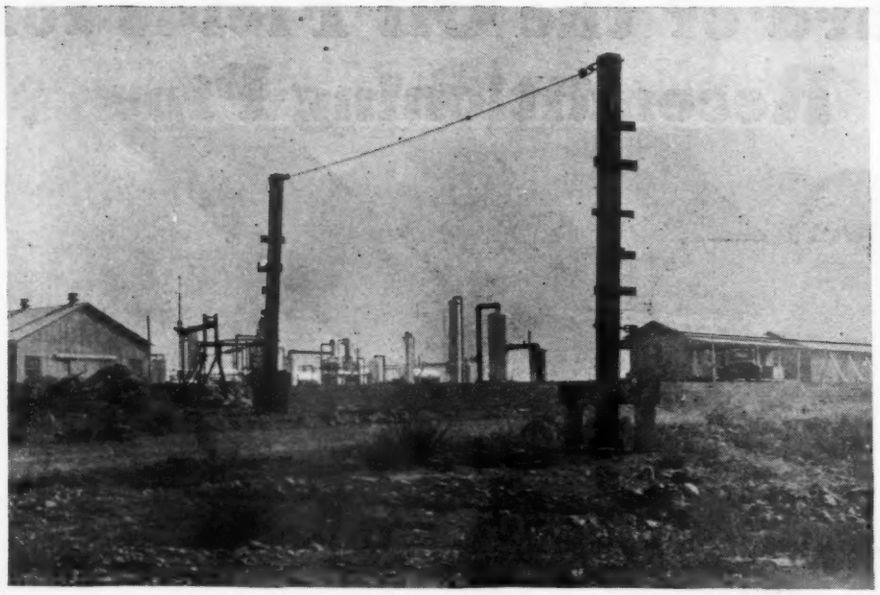

"Swaying Gate Posts" Solves Problem of Getting Shackle Rods Across Road

THE Albany field, Shackleford County, Texas, lies in a hilly, rugged section of the district, and like other fields located in areas that are replete with hills, gullies, slopes and inclines, the ingenuity of the production crew is often taxed when central powers are installed for pumping wells with the familiar jack and shackle rod type of hook-up.

As a result of the rugged topography of this particular district, shackle rods radiate from central powers reaching over, under, and often around the natural obstacles encountered. Occasionally the pull rods are suspended in the air above the gulley, very much in the same manner as employed in several "foot hill fields" in California. Other conditions invoke the use of the triangle swing joint, some times pumping a number of wells by shackle rods extending from the protruding ends of the triangle.

One rather knotty problem in the Albany field was solved in an unusual fashion. The well to be pumped by jack was located around the corner from the central power house, which made it necessary for the pull rods to turn an abrupt angle to the right. This was necessary because of the erection of homes for employees on the site of the Roesser & Pendleton gasoline plant No. 2 at Albany. Thus the shackle rods skirt the edge of the gasoline plant property line.

Moreover, the well to be pumped, which is Hope Oil & Gas Company's Reynolds 17, was drilled just at the side of the roadway leading into the gasoline plant yards — and this road, due to natural obstacles, could not be moved. Again, the entire distance from the corner of the property to the well was up a moderately steep incline, so that shackle rods could not be tied directly to the jack in the usual manner, since the incline or hill side threw the rods high above the ground, to the end that traffic could not pass along the roadway.

The problem then was one of pumping the well without interfering with the only the only entrance-way into the plant yard, and the problem was solved by "bridging the road" and suspending the shackle rod about 20 feet in the air, at the end of two upright poles. This gave sufficient clearance for any type of vehicle to enter the plant yard.

The manner of "bridging the road" is shown in detail in the accompanying illustration. The upright poles are hinged to a concrete foundation block. The tops of the two poles were connected with a strong stiff cable with turnbuckles provided so that it may be kept at the proper tension. Then the shackle rod which comes around the corner further down the hill, was tied onto the first upright pole on the further side of the road. The upright pole nearer the jack pump was then connected to the jack with short length of shackle rod, and turnbuckles installed, so that its tautness may be easily regulated. Then the power was started and the well was pumped evenly and smoothly even though the pull rods must first turn a corner and then "bridge the road."

Located as it is, this device forms a gateway leading into the Roeser & Pendleton gasoline plant. A visitor driving into the plant yard cannot immediately see the jack pump near the road-side, but does notice the two verticle poles swinging back and forth, and the visitor wonders for what good purpose was a rigid, side-swaying gate installed. The the bobbing jack pump shows up and it is understood that again the ingenuity of the production crew has been called upon, and they have neither gone under the road, nor crossed the road on top of the ground, but have bridged it and in a very satisfactory manner, leaving a level roadway into the plant.

Standard of California Buys Airplane

San Francisco—A great tri-motored airplane of the most modern type and design will shortly be flying the skies of the Pacific Coast for the Standard Oil Company of California. Lieutenant Commander George O. Noville of the Standard Oil Company, who was Commander Byrd's flight engineer on the North Pole expedition, and who flew with Byrd across the Atlantic, has left San Francisco for the East, for the purpose of placing the company's order for the airplane. It will be a three-motored passenger type, with capacity for eight or ten occupants. It will in all respects be one of the finest airplanes ever built in the United States.

The new "ship" will be used in various ways. Sooner or later it will probably visit all of the airports of the Pacific Coast for the purpose of assisting the development of aviation through arousing public interest. It will also be used by the laboratory experts for study and research in connection with airplane fuels and lubricants, and for the transport of company officials on business trips.

The purchase of an airplane by the Standard Oil Company is in line with other pioneering efforts in the interests of aviation. More than two years ago, at the suggestion of the War Department the company initiated a coast-wide plan of putting on the roofs of its warehouse at different points the names of cities and towns, in from 12 to 20-foot letters, as guide signs to aviators. Today nearly 500 such signs are in existence. They are readable from several thousand feet in the air and have proved most useful to fliers.

In making announcement of the company's plans, K. R. Kingsbury, president, said:

"The general use of the airplane by American business institutions is inevitable as every one knows, flying is far past the experimental stage and the airplane has a very definite commercial value to business. We hope to show the Pacific Coast the last word in airplane development and to give a demonstration of the commercial usefulness of aircraft. We also attach great importance to the opportunity we shall have for research in the field of fuels and lubricants for airplanes."

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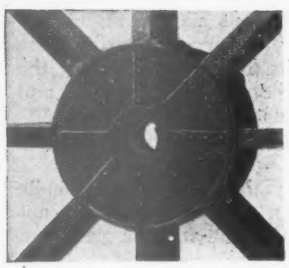

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Coastal Output Shows Steady Drop From Spindle Top High Figure

HOUSTON—When Spindle Top reached its peak during the last week of December, 1926, producing over 95,000 barrels daily, the high mark for the Texas and Louisiana Gulf Coast as a whole was also set, the daily average for all the Coastal fields amounting to 183,250 barrels. Since that time there has been a steady decline in the yield of the area, and during the week ending January 14, the daily average reached the lowest figure to which it has dropped since the decline began, amounting to only 123,800 barrels.

During the first half of 1927 the natural decline at Spindle Top was almost entirely responsible for all of the decrease, but during the latter half of the year Spindle Top caused only about one-half of the decrease, the rest being due to general curtailment of activity and natural declines in other fields.

During the week ending January 14, this year, Spindle Top's average daily production, as estimated by the American Petroleum Institute, was 46,800 barrels, as against 61,200 barrels six months earlier, a decrease of 14,400 barrels. During those same six months the daily average of the Gulf Coast sections of Louisiana and Texas as a whole had declined from 150,900 to 123,800 barrels, or approximately 27,000 barrels.

Pierce Junction, in contrast with Spindle Top, has shown a steady increase, not only during 1927, but for the past two years. At the beginning of 1926 the daily average for the field was less than 1000 barrels. At the beginning of the next year it had mounted to nearly 6000 barrels. And now the field is producing over 9000 barrels a day, enough to make it the third largest source of oil in the region. Pierce Junction, however, was the only field in Coastal Texas which showed any material increase in production.

Hull's average daily yield decreased only about 1500 barrels during the first half of 1927, but during the latter half it declined approximately 5000 barrels, the largest decrease recorded by any field, with the exception of Spindle Top.

Other noteworthy decreases during the last six months of 1927 in fields of the Texas Gulf Coast were as follows: Big Creek, about 1800 barrels; Humble, nearly 1500 barrels, and Goose Creek, approximately 1500 barrels.

South Louisiana is producing more now than a year ago, but not as much as it was yielding six months ago. Edgerly was producing about 500 barrels at the opening of 1927, approximately 1200 barrels six months later, and now yields over 2000 barrels a day, the increase having been brought about largely by deepening and working over old wells.

Lockport had a different history during the past year. Its daily average at the first of 1927 was about 2500 barrels, climbed up to nearly 8000 barrels in July, and has decreased by now to about 5000 barrels.

The accompanying table shows the trend of production in all fields of the Texas and Louisiana Gulf Coast region during the past two years.

TABLE SHOWING TREND OF PRODUCTION IN GULF COAST FIELDS DURING PAST TWO YEARS.

(Figures show average daily yield in barrels, as estimated by the American Petroleum Institute.)

Field—	First Week Jan. 1926	First Week July 1926	Week Ending Jan. 1, 1927	First Week July, 1927	Week Ending Jan 14, 1928
COASTAL TEXAS—					
West Columbia	8,950	8,950	9,400	9,000	8,300
Damon Mound	950	650	1,000	900	900
Big Creek	900	1,050	3,900	3,800	2,050
Boling	3,200	2,250	3,100	1,700	2,000
Blue Ridge	800	500	3,150	3,500	3,650
Pierce Junction	850	1,200	5,700	7,000	9,200
Humble	4,850	4,100	4,150	3,350	1,900
Goose Creek	8,250	8,750	7,600	8,700	7,200
South Liberty	9,400	5,700	3,900	3,050	2,400
Hull	14,350	18,250	18,600	16,950	11,600
Saratoga	1,100	1,400	1,250	1,150	1,050
Batson	1,100	1,350	1,700	1,250	1,400
Sour Lake	3,900	5,300	4,850	4,200	3,700
Spindle Top	1,150	26,800	95,550	61,200	46,800
Orange	14,750	9,400	6,500	4,900	4,050
Others	750	1,500	1,850	4,400	3,350
Totals	74,700	97,150	172,250	135,050	109,550
SOUTH LOUISIANA—					
Vinton	6,750	7,050	5,750	4,850	4,500
Lockport	3,000	5,300	2,650	7,750	4,900
Evangeline	1,000	900	1,250	1,000	1,050
Edgerly	700	1,050	550	1,200	2,200
Others	500	650	800	1,050	1,550
Totals	11,950	14,950	11,000	15,850	14,250
Gulf Coast totals	86,650	112,100	183,250	150,900	123,800

Ask Law To Stop Sale of Oil to Foreigners

Washington, D. C.—Legislation prohibiting the sale of naval reserve oil to foreign-controlled corporations has been recommended by the special board which was appointed by Secretary of the Navy, Curtis D. Wilbur, on January 24, following reports that the Honolulu Consolidated Oil Company was selling oil derived from its lease on Naval Reserve No. 2 at Elk Hills, California, to the Royal Dutch Shell Company, a British concern.

The board also recommended against the leasing of naval reserves to foreign companies.

It was explained by Secretary Wilbur that Admiral Rosseau had submitted a report embodying the recommendations for legislation to him, and that the substance of this report had been approved by the special board, composed of Rear Admiral R. H. Rosseau, chief of the Navy Oil Office; Rear Admiral Campbell, and Rear Admiral John Halligan, Jr., chief of the Bureau of Engineering.

Because of certain legal questions involved, with regard to the enactment of legislation along the lines recommended in the report, however, the matter was referred to Rear Admiral Campbell for his scrutiny, it was stated.

Committee To Study Gas Conservation

Los Angeles.—E. W. Clark, president of the American Petroleum Institute, recently appointed a general committee of prominent oil men to study means of conserving surplus gas in several fields in California. The general committee met and appointed sub-committees for the various districts in the State, but has not made public these appointments. The general committee includes M. E. Lombardi, Standard Oil Company of California, chairman; William Reinhardt, the Shell Company of California; Chester W. Brown, Union Oil Company; R. D. Bush, State Oil and Gas Supervisor; William Moeller, Jr., Midway Gas Company; W. L. McLaine, General Petroleum Corporation; John McKeon, Richfield Oil Company; L. J. King, Associated Oil Company; Dana Hogan, Pan-American Petroleum Company; Charles Dore, Superior Oil Company; Paul Grimm, George F. Getty, Inc.; S. P. van Deinse, California Petroleum Corporation, and R. E. Collom, Marland Oil Company.

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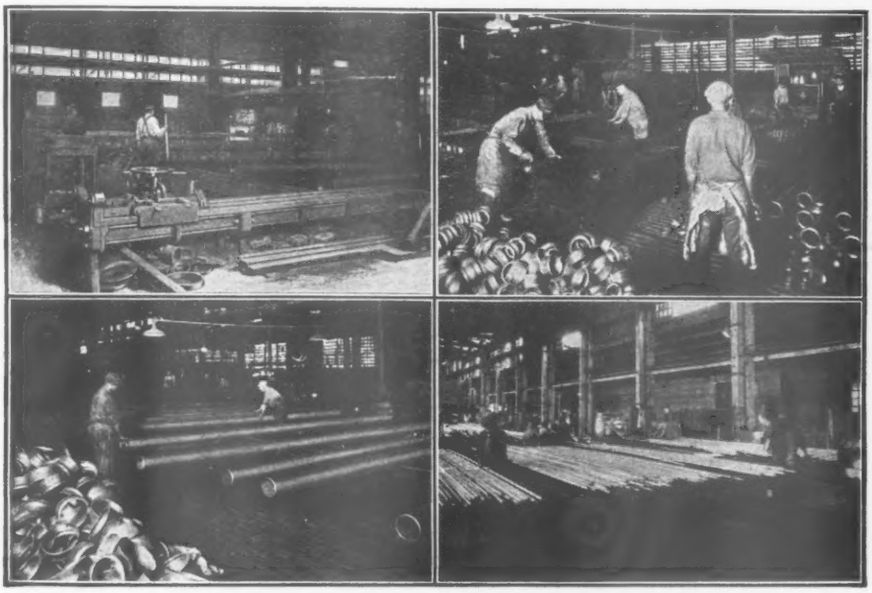

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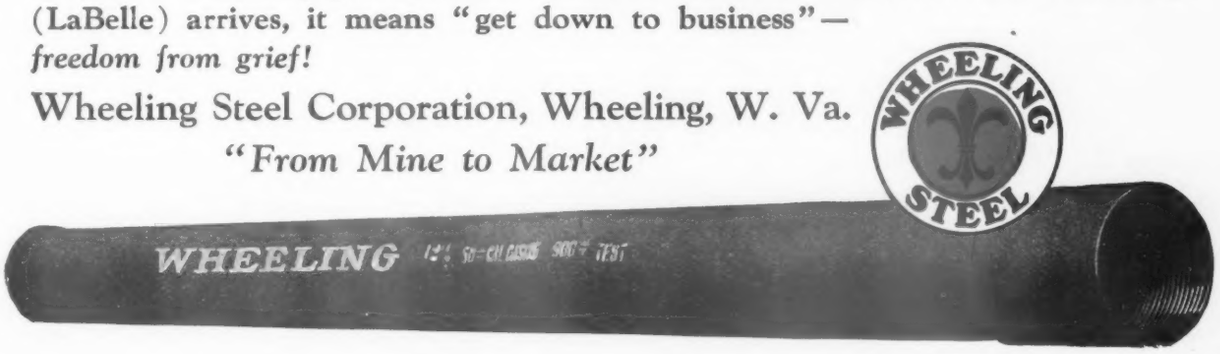

WHEELING

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Mountain States Field Development Notes

Kevin - Sunburst West Side Looks Good

Great Falls, Mont.—Hopes for future development on the west side of the Kevin-Sunburst field have received a decided impetus by the completion of Majestic Oil Company's Louis-Davis 1, which is on the pump making considerable oil and but little water. Location is on the southwest of section 27-53-3w. Marharg Oil Company has five producing wells on the Rock permit acreage, a mile or so northeast of the Louis gusher. The crude tests 37 degrees Baume, and the wells have had a very small rate of decline. The Big Elephant-Strange well is two and one-half miles southwest of Louis-Davis 1, and the Madison-Strange is just west of the Big Elephant wells which were brought in as big producers, but which during the last three months have not been pumped at all.

Colonel-Kevin Syndicate has moved a derrick to its holdings and is rigging up. Location is on the northeast of the northeast of section 27-35-3w. Roy Tarrant is drilling a well on section 28-35-3w, and Mill City Company, a Canadian concern, is drilling below 500 feet in the southwest of the southwest of section 29-35-3w. Madeline Oil Company's operation on 33-35-4w has been taken over by Bruce Radigan and Slim Hungerford, and is reported to be bottomed below 600 feet.

International Refinery at Sunburst has completed the laying of a two-inch pipe line from the Louis well to Sunburst, having contracted for the well's production.

Holdings on the west side of the field have recently been taken by Devonian Oil Company and will be developed this year, according to announcement made recently at the time of the company's incorporation.

Drilling in Test in New Oregon Basin Field

Cody, Wyo.—Cody Petroleum Company is drilling in its Klindt 1, southeast of the southeast of section 7-51-100, in the new Oregon Basin field, having cemented 6⅝-inch casing last week. A corrected depth measurement showed the well to have been standing at 3539 instead of 3553 feet, which is taken to be most encouraging for a large production. Total depth at last report was 3590 feet, in the Embar-Tensleep formation, with a plan being worked out to drill through the Embar and possibly the Tensleep also in case gusher production is not reached before. The formation is 200 to 250 feet thick. All preparations are made for gusher production; line of the Illinois Pipe Line Company has been connected with 1000-barrel flow tanks set by Black, Sivalls & Bryson, Inc., and there are 16 250-barrel steel tanks ready to hook up. Four additional 250-barrel steel tanks are on the ground ready for installation. Report is to the effect that the Cody Petroleum Company (Ferdig interests) has arranged to sell a maximum of 10,000 barrels daily production to one of the trunk line railways, delivery to start immediately upon the production of oil. Estimates of the well's production range from 500 to 25,000 barrels per day.

Start Electrification of Kevin-Sunburst

Great Falls, Mont.—Electrification of the Kevin-Sunburst field will be accomplished by Great Northern Utilities Company, according to an announcement recently made. The company will start work immediately upon a $500,000 electric power plant to be built at Shelby. Power will be furnished to the town of Shelby, to Kevin, and to the field with sufficient current available for all oil field, industrial and domestic use. The plant will have a capacity of 33,000 volts and will be three-phase in type. In connection with the power plant, the company will build a complete distributing system in Shelby, Kevin and Sunburst. Power will be generated at the Shelby plant with natural gas engines for which fuel will be supplied by wells in the Kevin-Sunburst field.

Price Advance

Great Falls, Mont.—Ohio Oil Company has advanced the posted price of crude petroleum from the Kevin-Sunburst field 15 cents per barrel. This brings the price offered up to $1.50 per barrel. The posted price of crude from Kevin-Sunburst has never been cut as has been the case in the other sections of the country; however, it has not been raised for the last two years.

Reasons for this advance at this time are reported due to local conditions, and not to be taken as reflective of the crude market situation as a whole in other parts of the country. In the last two years there has been a gradual decline in the field production, from a peak of 50,000 barrels to a little more than 9000 barrels at present. The prospects of another independent pipe line into the fields also is credited with having had some influence in the posting of an increased price.

Sunshine Structure Show

Riverton, Wyo.—Union Oil Company of California reports a good showing of black oil in the top of the Tensleep formation, South Sunshine structure, Park County. Total depth is 3490 feet. Top of the Embar was found at 3225 feet. The hole is said to be nearly full of water, on top of which there is 100 feet of oil. Bottom of the hole is to be plugged back a few feet and an attempt will be made to shut off the water and drill deeper.

Wyoming Producers Lose Eastern Contracts

Casper, Wyo.—Because the government evidently intends to take over the Sinclair interests' pipe line in Wyoming, which is laid on public domain, Salt Creek and Teapot Dome fields will lose their contracts with refineries in the East. Right-of-way for the line was granted by the Department of the Interior. Attorneys for the government believe that inasmuch as the pipe line was a part of the contract in the leasing of Teapot Dome, it will revert to the government, along with the wells, tanks, and other permanent equipment connected with the Mammoth Oil Company's lease in the operation of same on Teapot Dome.

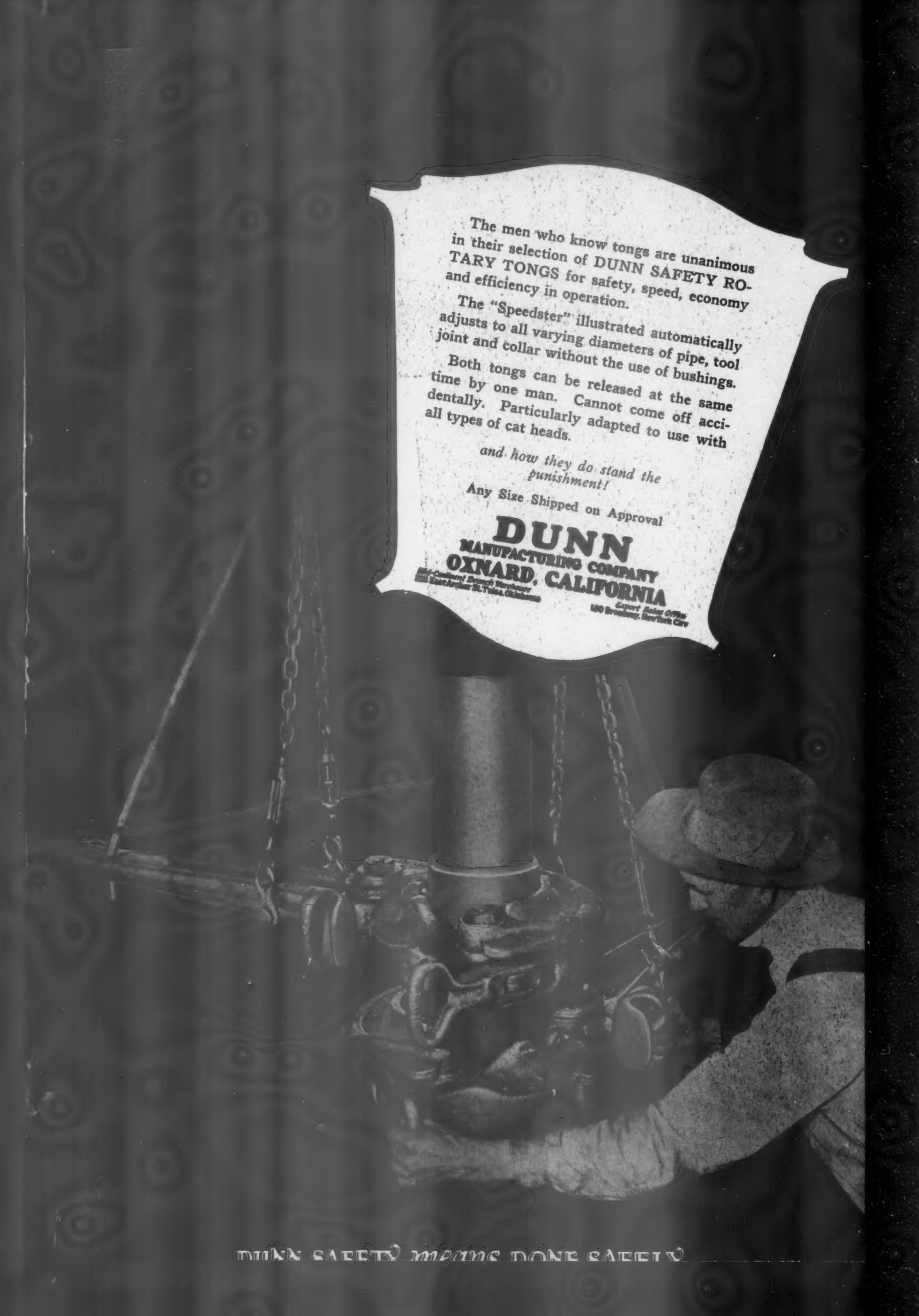
The Sinclair line runs from Teapot Dome through Natrona, Converse, Platte, and Goshen Counties, in Wyoming, and is approximately 200 miles long in this State. It is one of the main trunk lines of the oil industry. It extends from Teapot Dome to Freeman, a station near Kansas City, Missouri, where it connects with the through trunk line to the Houston refinery at tidewater and the Gulf of Mexico. Before laying this line there was a differential of 45 cents per barrel in favor of Mid-Cantinent crude, compared with Salt Creek crude. After the completion of the line, the price of Salt Creek and Mid-Continent grades were placed on a parity.

North Dakota Wildcats

Casper, Wyo.—Wildcat tests in North Dakota, five in all, are being drilled by A. C. Townley, formerly non-partisan party leader of that State. Tests are located near Ray, New England, Nesson, Valley City, and Robinson. The Ray, New England, and Valley City operations are only rigs so far, but the Nesson test is now drilling. The Robinson test is shut down with a showing of oil reported.

Townley has a unique system of financing. . After the selection of a locality in which he plans to drill, he calls a meeting of residents of the vicinity and announces that he is ready to accept loans in sums varying from $100 to $1000, for which he will give his personal note with the understanding that if the well is a failure the notes will never be paid, and if oil is discovered the holders will participate in the profits of the particular operation to the development of which they have subscribed. In this way he has raised $500,000 and has gotten around the North Dakota blue sky law.

Dean E. Winchester, consulting geologist of Denver, and one of the best known oil shale authorities in the country, has estimated the present value of crude oil to be extracted from shale at $50,000,000,000.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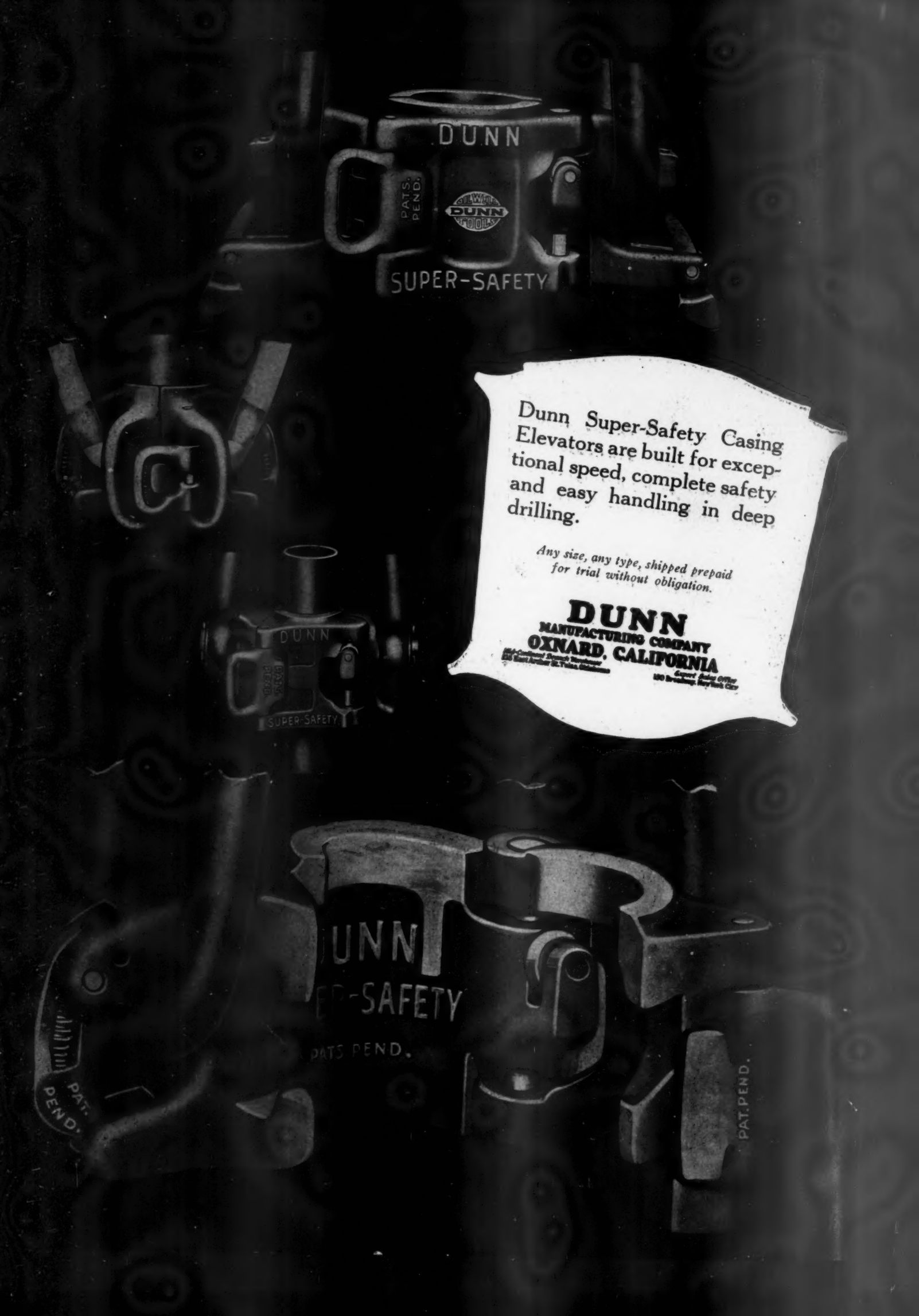

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Advantages of A. P. I. Standard Pumping Equipment

By T. E. SWIGART
Shell Company of California, Los Angeles, California

CRITICS of the oil business who are quick in detecting its faults, might well pause to examine the voluntary accomplishments of one of the nation's largest industries in standardization. It is doubtful that even Secretary Hoover, whose great vision and practical business genius led to his recommendations for "standardization," or "simplification" as he prefers to call it, anticipated such a vigorous and complete program within a major industry as that sponsored by the American Petroleum Institute.

The oil industry, which so often is accused of lack of cooperation, has refuted these charges by carrying on probably the greatest campaign of standardization of its tools that has ever been effected by an industry in a like period. This engineering project an accomplished fact, the industry is now ready to turn to its next problem, namely, improved production methods by which the recovery of oil from fields may be increased. Although this new problem is anything but one of standardization, still the public is justified in expecting the same thorough, vigorous and voluntary action that has characterized the petroleum industry's standardization movement.

The mechanical tools for use in this new era in oil field development and exploitation are ready. Through the American Petroleum Institute standardization work, the industry has eliminated thousands of old tools and machinery of widely different dimensions and provided itself with the most up-to-date and improved equipment that could be devised. These tools are the product of the industry's 60 odd years field experience and the best engineering judgment that could be summoned. Their value lies not only in standardization of dimensions and interchangeability in use, but also in their quality of design.

Less than three years ago production equipment used by the oil industry varied from well to well, field to field, company to company, and from time to time in a given well, field, or company, according to the individual ideas of foremen and equipment manufacturers. Some equipment was good, some bad, but very little of different manufacture was interchangeable. The committee has record of 248 different designs of tubing, sucker rods, oil well pumps and parts. Still others doubtless existed. These have been replaced by 24 standard A. P. I. designs. In addition, foundation bolts, clutch flange dimensions, and methods of rating internal combustion engines for oil field service, have been established.

A. P. I. Standard Tubing

Oil well tubing was one of the first studies of the committee with a result that standards for 2, 2½, 3 and 4-inch plain tubing and for 1¼, 1½, 2, 2½ and 3-inch upset tubing were set two years ago. The innovation of the gas lift and its wide application in the Mid-Continent fields, particularly at Seminole, caused the committee to add three more sizes of tubing to A. P. I. standards, namely 3½-inch plain and 3½ and 4-inch upset. These sizes are being used in tapered or telescoped flow strings. Their adoption has especial significance at this time in that it illustrates the flexibility of the standardization program. A need arose for new sizes which could not have been foreseen when the original standards were drawn. No time was lost by the committee in caring for this need. This tubing is already in use in the fields, although the standards have been barely adopted.

By virtue of long collars and long-thread engagement, as well as certain details of thread and coupling design, A. P. I. tubing is a greatly superior product to the old style of tubing that has been in common use. Figures 3A and 3B are charts giving important dimensions on all old styles of tubing compared with A. P. I. tubing. It is found that 71 A. P. I. dimensions replace 289 old dimensions showing the simplification of design effected.

By virtue of having longer thread engagement, A. P. I. tubing is stronger when first made up and is capable of withstanding the making and breaking of joints for a longer period of time without weakening the tubing, than is the old style. This is an advantage both from the standpoint of lessening the danger of parting and lessening the chance for leaks at couplings.

These collars of A. P. I. tubing are so recessed that the joints are readily stabbed and will not cross thread.

A. P. I. plain tubing is threaded with 11½ threads per inch and upset tubing with 10 threads per inch, with the exception of 3½ and 4-inch plain tubing which have 10 threads and 1¼ and 1½-inch upset tubing which have 11½ threads. Although some prejudice has existed among certain operators against the use of 10-thread tubing, still this has been largely overcome by splendid results which 10-thread tubnig has given in California where, at present, the longest strings of tubing are in use.

A string of 4500 feet of a 2½-inch upset A. P. I. tubing was pulled in

TABLE 1

IMPORTANT GENERAL DIMENSIONS OF A. P. I. STANDARD PLAIN TUBING

(All Dimensions in Inches at 68° F. Unelss Otherwise Specified)

Size	Diameters Outside	Diameters Inside	Thickness	Threads No./in.	Threads Taper In./ft.	Weight/ft. With Couplings —Lb.	Couplings O. D.	Couplings Length	Couplings Depth Recess	Mill Test Press. Seamless Lb./sq. in.	Length of String Equiv. to Tensile Strength of Joint. Safety Factor 2. Feet
2	2.375	1.995	.190	11½	¾	4.6	2.870	4.250	.500	2500	5578
2½	2.875	2.441	.217	11½	¾	6.4	3.517	5.250	.500	2500	6006
3	3.500	3.018	.241	11½	¾	8.7	5.200	5.875	.500	2500	5925
3*	3.500	2.922	.289	11½	¾	10.2	4.200	5.875	.500	2500	6462
3½	4.000	3.548	.226	10	¾	9.5	4.750	6.000	.500	2100	6946
4	4.500	3.958	.271	10	¾	12.6	5.216	6.375	.500	2200	6335

*On special order only.

TABLE 2

IMPORTANT GENERAL DIMENSIONS OF A. P. I. STANDARD UPSET TUBING

(All Dimensions in Inches at 68° F. Unless Otherwise Specified)

Size	Diameters Outside	Diameters Inside	Thickness	No./in.	Taper No./ft.	Weight/ft. With Couplings —Lb.	Upset O. D.	Upset Length	Couplings O. D.	Couplings Length	Depth of Recess	Mill Test Press. Seamless Lb./sq. in.	Length of String Equiv. to Tensile Strength of Joint Safety Factor 2. Feet
1¼	1.660	1.380	.140	11½	¾	2.400	1.81250	2.000	2.200	3.500	.250	2500	9401
1½	1.900	1.610	.145	11½	¾	2.900	2.09375	2.250	2.500	3.750	.250	2500	9303
2	2.375	1.995	.190	10	¾	4.700	2.59375	3.500	3.060	4.875	.500	2500	9365
2½	2.875	2.441	.217	10	¾	6.500	3.09375	3.750	3.668	5.375	.500	2500	9408
3	3.500	2.992	.254	10	¾	9.300	3.75000	4.000	4.504	6.000	.500	2500	9399
3½	4.000	3.476	.262	10	¾	11.000	4.250	4.000	5.000	6.250	.500	2400	11467
4	4.500	3.958	.271	10	¾	12.750	4.750	4.250	5.563	6.500	.500	2200	11577

stands of four joints each, from a well in the Santa Fe Springs field. This string of tubing weighed 29,250 pounds, or 14.6 tons and requires a special "racking" platform on the derrick floor, to support the weight. All this weight must be borne by the joints near the top of the string and the importance of an extra strong joint is paramount. Trouble often results from parted tubing. The fishing job in this well was an unusually bad one, requiring 10 months to complete and costing, eventually, as much as a new well. A. P. I. tubing is the best protection available against such jobs.

A canvas of the tube manufacturers has shown that approximately 11,000,000 feet, or 2080 miles of A. P. I. tubing has been sold in the United States during the first year and one-half of manufacture. Of this amount 4,500,000 feet, or 850 miles, was sold to Mid-Continent operators and 6,500,000 feet, or 1230 miles, to California operators. Approximately 90 per cent of all A. P. I. tubing sold in California was 10-thread upset. All large operators in California have used A. P. I. tubing for over a year, and most of them use it exclusively. In fact, practically no tubing excepting A. P. I. standard tubing is now sold in California.

Tables 1 and 2 summarize the important general dimensions of A. P. I. tubing. In brief, its advantages over all other kinds are:

1. Better design than old styles of tubing and therefore stronger.
2. Long collars on A. P. I. tubing will stand more making and breaking; will not cross thread on the joint.
3. Complete interchangeability between brands.
4. Large reductions in operators' stocks of tubing because of standardized dimensions.
5. Elimination of confusion at wells caused by failure of two makes of tubing to "go" together.
6. All working barrels, tubing catchers, tubing heads, landing nipples, etc., will soon be manufactured with standard A. P. I. threads and use of any other kind of tubing will require sub-nipples which will cause endless confusion and costly delays in the field.
7. Users of A. P. I. tubing will get best tubing available at lowest cost—users of other kinds soon will have to obtain it "special order" and eventually this will mean higher prices.
8. No standards or gauges have been established for any but strictly A. P. I. standard tubing and failure to use A. P. I. standards loses the producer all the advantages of standardization, namely, workmanship, interchangeability, recourse to manufacturer in the event of imperfections, and the like.
9. Field tools for tubing (and rods) can be reduced in number.

Mr. W. L. McLaine, Director of Production of the General Petroleum Corporation, Los Angeles, California, summed up the situation in his paper before the Colorado Springs Standardization Conference in June, 1927, when he said:

"I can only think of one possible distadvantage to the adoption of A. P. I. tubing and that is the inconvenience at a few wells where the new tubing will have to be mixed with the old. This objection strikes at the heart of our standardization work for if we were to allow this objection to rule, the standardization movement might as well never have been started.

"The inconvenience of mixing tubing is suffered alike by all operators whether Eastern, Mid-Continent or California, because the new joints are different from all of the old joints in length of thread engagement and sub-nipples must be used in mixed strings to insure greatest safety. We are largely overcoming the necessity for mixed strings in California by installing complete new strings of A. P. I. tubing in wells and salvaging the good joints of the old-style tubing. Occasionally, when a few joints of old-style tubing are bad in a certain well, they are replaced from the salvage stock of old-style tubing. In addition, we use much old-style tubing that is no longer fit to run in wells for line pipe, so actually very little mixing of strings is necessary."

The practicability and superiority of A. P. I. tubing have been so clearly proven in the field that the committee has no hesitancy in urging oil operators who have not already adopted A. P. I. tubing to do so without delay. In fact, A. P. I. tubing has given such outstandingly good results that, in the interests of good business, operators who have not already adopted it cannot afford longer to ignore its advantages.

A. P. I. Standard Sucker Rods

Sucker rods, like other kinds of oil field equipment, varied greatly in design. Figure 8 shows some of the common forms of sucker rod joints now in use. Figure 9 is a tabulation of important dimensions of practically all makes of sucker rods, as well as A. P. I. standard dimensions and emphasizes the simplification effected by the A. P. I. program. By adopting A. P. I. standards, over 90 general dimensions were replaced by 25 dimensions.

Figure 10 shows the A. P. I. standard joint form in some detail. Standards have been adopted for three sizes of rods, namely, ⅝, ¾ and ⅞-inch rods.

The history of the development of the A. P. I. sucker rod is of particular interest. During the early days of the committee it was found that many differences of opinion existed among operators regarding the design of sucker rod joints and the importance of design. These difficulties were so marked that it became apparent that the committee as a whole could not expect to develop a standard design along engineering lines, so the then National Chairman, W. L. McLaine, appointed a sub-committee and charged the sub-committee with the duty of developing a proposed standard A. P. I. sucker rod joint. This sub-committee of six engineers included some of the most capable men obtainable, both from the operators and rod manufacturers. Every point of design was studied by this sub-committee and determned upon only after mature deliberation. The final product, which is the present A. P. I. joint, represents the best engineering principles of design. The A. P. I. joint and gauges were ratified at the 1927 Colorado Springs meetings and are described in detail in A. P. I. Standards 11-B.

The sucker rod joint shown in Figure 10 has several features of especial

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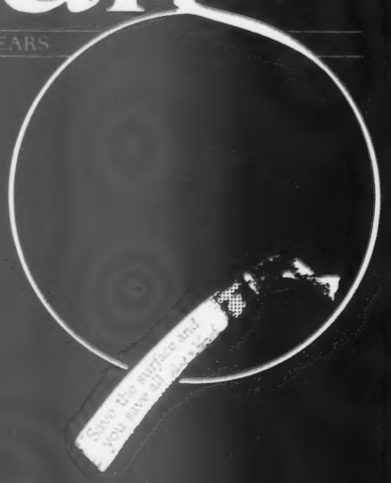

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interest. The diameters of the pins for respective sizes of rods were increased over the diameters in use by the majority of manufacturers in order to give greater strength. For example, the 3/4-inch A. P. I. sucker rod has a nominal outside diameter of 1 1/16-inch as compared to nominal outside diameters varying from 7/8-inch to 1 1/16-inch on most old styles of rods.

A. P. I. sucker rod specifications call for 10 United States standard threads per inch as specified by the National Screw Thread Commission. The screw thread commission allows both a sharp and a flat-top form of thread and the flat-top form was adopted by the committee for the A. P. I. sucker rod joint, in the interest of ruggedness, see Figure 10. Another valuable feature of the A. P. I. sucker rod joint is the provision for a vanishing thread as shown at C, Figure 10. The crests of the last three threads on the box and the roots of the last four threads on the pin are vanished with a taper of 9 degrees in order to provide additional stock near the base of the pin and thus prevent pin breakages, which observation shows, tends to occur in the

Figure 8

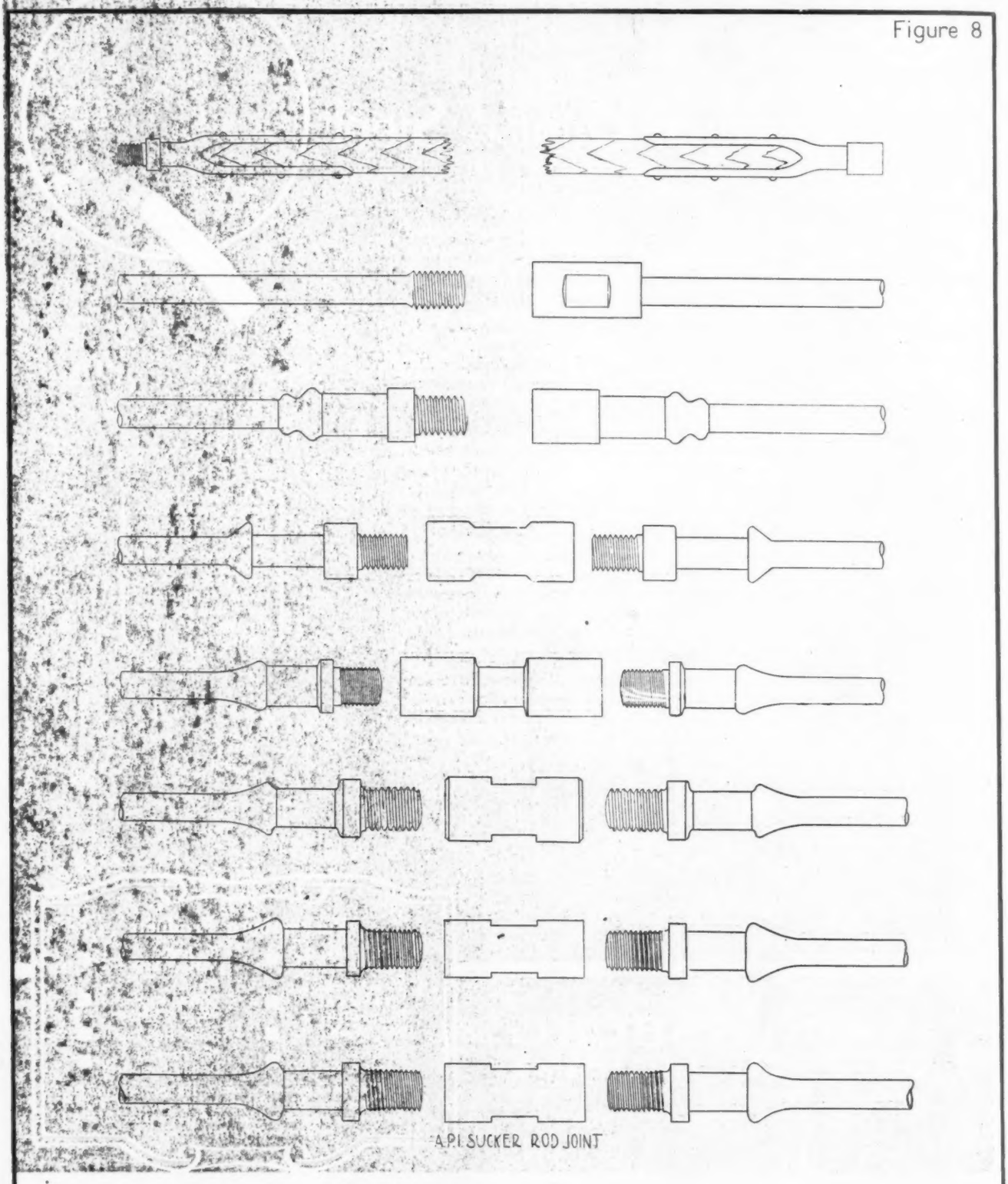


FIGURE 8.
COMPARISON OF OLD STYLE SUCKER ROD JOINT WITH THE A. P. I. STANDARD JOINT.

OLD STYLE - PLAIN TUBING

Figure 3-A

2" TUBING-PLAIN

TRADE NAME	DEALER OR MAKER	LAPWELD OR SEAMLESS	MATERIAL (ST. OR W.I.)	WT./FT.-(LBS) Nom. Thread & Coupling	WT./FT.-(LBS) Plain Ends	O.D. (IN.)	I.D. (IN.)	THICKNESS (IN.)	THD'S PER INCH	KIND OF THREADS	LGTH. OF THD'S OVERALL (IN.)	LGTH. OF PERFECT THDS (IN.)	No. OF IMPERF THDS	No. OF VANISH THD'S	REGULAR COUPLINGS O.D. (IN.)	LENGTH (IN.)	WT. EA. (LBS.)	DEPTH OF RECESS (IN.)	DIA. OF RECESS (IN.)	RECESS THDS. (DBL.)	PAT. REINF. COUPLINGS O.D. (IN.)	LENGTH (IN.)	WT. EA. (LBS.)	DEPTH OF RECESS (IN.)	DIA. OF RECESS (IN.)	RECESS THDS. (DBL.)	TUBING TEST PRESSURE (LBS.)
NATIONAL OIL WELL	N.S.Co.	Lapweld	Steel	4.000	3.938	2.375	2.041	.167	10	Sper. Standard	1.3632	.9302	2	3	2.841	3½	2.174	.375	2.500								2200
NATIONAL OIL WELL	N.S.Co.	"	"	4.500	4.433	2.375	1.995	.190	"	"	1.3632	.9302	"	"	2.841	"	2.174	.375	2.500								2500
NATIONAL OIL WELL	N.S.Co.	"	"	5.000	4.939	2.375	1.947	.214	"	"	1.3632	.9302	"	"	2.841	"	2.174	.375	2.500								2500
NATIONAL DIAMOND B.X.	N.S.Co.	"	"	4.600	4.433	2.375	1.995	.190	"	"	1.625	1.190	"	"													2500
READING	R. Iron Co.	"	Wrought Iron	4.000	3.938	2.375	2.034	.171	"	"	1.625	1.190	"	"	2.938	4½	2.700	.437	2.437								2200
READING	R. Iron Co.	"	"	4.500	4.433	2.375	1.987	.194	"	"	1.625	1.190	"	"	2.938	"	2.700	.437	2.437								2500
YOUNGSTOWN STANDARD	Assoc. Supply Co.	"	Steel	4.000	3.938	2.375	2.041	.167	"	"	1.375	.940	"	"	2.906	4⅞	2.375										2200
YOUNGSTOWN CALIFORNIA	Assoc. Supply Co.	"	"	4.000	3.938	2.375	2.041	.167	"	"	1.625	1.190	"	"	2.906	4⅞	2.65										2200
YOUNGSTOWN CALIFORNIA	Assoc. Supply Co.	"	"	4.500	4.433	2.375	1.995	.190	"	"	1.625	1.190	"	"	2.906	"	2.65										2200
STANDARD	Assoc. Supply Co.	Seamless	"	4.500	4.433	2.375	1.995	.190	"	"	1.500	1.065	"	"	2.841	5½	2.146	.375	2.468								2500
YOUNGSTOWN STANDARD	Assoc. Supply Co.	Lapweld	"	4.500	4.433	2.375	1.995	.190	"	"	1.375	.940	"	"	2.906	"	2.575										2500
REPUBLIC	Repub. Supply Co.	"	"	4.000	3.938	2.375	2.041	.167	"	"	1.4375	1.000	"	"	2.841	"	2.146	.437	2.437								2200
REPUBLIC	Repub. Supply Co.	"	"	4.500	4.433	2.375	1.995	.190	"	"	1.4375	1.000	"	"	2.841	"	2.146	.487	2.437								1500
STANDARD	Repub. Supply Co.	Seamless	"	4.500	4.433	2.375	1.995	.190	"	"	1.4375	1.002	"	"	2.841	"	2.146	.375	2.718								2500
BYERS OIL WELL	Repub. Supply Co.	Lapweld	Wrought Iron	4.000	3.938	2.375	2.034	.171	"	"	1.375	.940	"	"	2.937	"	2.600	.378	2.421								2000
BYERS OIL WELL	Repub. Supply Co.	"	"	4.500	4.433	2.375	1.987	.196	"	"	1.375	.940	"	"	2.937	4½	2.700	.437	2.481								2500
JONES & LAUGHLIN - STANDARD		"	Steel	4.250	3.938	2.375	2.041	.167	"	"	1.375		"	"	2.841	3⅞	2.174	.375									
" " "		"	"	4.500	4.433	2.375	1.995	.190	"	"	1.375		"	"	2.841	"	2.174	.375									
" " "		"	"	5.000	4.939	2.375	1.947	.214	"	"	1.375		"	"	2.841	"	2.174	.375									
SPANG CHALFANT & CO. STANDARD		"	"	4.000	3.938	2.375	2.041	.167	"	"			"	"	2.875	3⅞	2.331										
" " "		"	"	4.500	4.433	2.375	1.995	.190	"	"			"	"	3.000	4½	3.556										

2½" TUBING-PLAIN

TRADE NAME	DEALER OR MAKER	LAPWELD OR SEAMLESS	MATERIAL	WT./FT.-(LBS) Nom. Thread & Coupling	WT./FT.-(LBS) Plain Ends	O.D. -(IN.)	I.D. (IN.)	THICKNESS (IN.)	THD'S PER INCH	KIND OF THREADS	LGTH. OF THD'S OVERALL (IN.)	LGTH. OF PERFECT THREADS (IN.)	No. OF IMPERF THDS	No. OF VANISH THD'S	REGULAR COUPLINGS O.D. (IN.)	LENGTH (IN.)	WT. EA. (LBS.)	DEPTH OF RECESS (IN.)	DIA. OF RECESS (IN.)	RECESS THDS. (DBL.)	PAT. REINF. COUPLINGS O.D. (IN.)	LENGTH (IN.)	WT. EA. (LBS.)	DEPTH OF RECESS (IN.)	DIA. OF RECESS (IN.)	RECESS THDS. (DBL.)	TUBING TEST PRESSURE (LBS.)
NATIONAL OIL WELL	N.S.Co.	Lapweld	Steel	5.900	5.793	2.875	2.469	.203	11½	Sper. Standard	1.575	1.140	2	3	3.649	4⅞	3.711	.375	3.000								2000
" " "		"	"	6.250	6.160	2.875	2.441	.217	"	"	1.575	1.140	"	"	3.649	"	3.711	.375	3.000								2200
NATIONAL DIAMOND B.X.		"	"	6.400	6.160	2.875	2.441	.217	"	"	2.0625	1.6278	"	"													
READING	R. Iron Co.	"	Wrought Iron	5.897	5.793	2.875	2.460	.208	"	"	1.625	1.190	"	"	3.625	4½	4.550	.437	2.937								
READING	" " "	"	"	6.250	6.160	2.875	2.431	.222	"	"	1.625	1.190	"	"	3.625	4½	4.550	.437	2.937								
YOUNGSTOWN STANDARD	Assoc. Supply Co.	"	Steel	5.900	5.793	2.875	2.469	.203	"	"	1.500	1.065	"	"	3.500	4⅞	3.800										2000
STANDARD	" " "	Seamless	"	6.250	6.160	2.875	2.441	.217	"	"	1.875	1.44	"	"	3.649	4⅞	3.636	.375	2.988								2200
YOUNGSTOWN CALIFORNIA	" " "	Lapweld	"	6.250	6.160	2.875	2.441	.217	"	"	2.000	1.565	"	"	3.500	5⅛	5.00										
YOUNGSTOWN STANDARD	" " "	"	"	6.250	6.160	2.875	2.441	.217	"	"	1.500	1.065	"	"	3.500	4⅞	3.800										
REPUBLIC	Repub. Supply Co.	"	"	5.897	5.793	2.875	2.469	.203	"	"	1.5625	1.125	"	"	3.649	4⅞	3.636										1500
" " "	" " "	"	"	6.250	6.160	2.875	2.441	.217	"	"	1.5625	1.125	"	"	3.649	4⅞	3.636										1800
STANDARD	" " "	Seamless	"	6.250	6.160	2.875	2.441	.217	"	"	1.865	1.44	"	"	3.649	4⅞	3.636	.375	3.218								2200
BYERS OIL WELL	" " "	Lapweld	Wrought Iron	5.897	5.793	2.875	2.460	.207	8	"	1.625	1.000	"	"	3.531	4½	4.250	.375	2.937								1500
" " "	" " "	"	"	6.250	6.160	2.875	2.439	.222	11½	"	1.625	1.190	"	"	3.531	4½	4.250	.375	2.937								2000
READING	Rep. Iron Co.	"	"	6.350	6.160	2.875	2.441	.217	"	"	2.125	1.4752	"	"													
JONES & LAUGHLIN - STANDARD		"	Steel	5.900	5.739	2.875	2.469	.203	"	"	1.500		"	"	3.649	4⅞	3.711	.375									
" " "		"	"	6.250	6.160	2.875	2.441	.217	"	"	1.500		"	"	3.649	4⅞	3.711	.375									
SPANG CHALFANT & CO. STANDARD		"	"	5.897	5.793	2.875	2.469	.203	"	"			"	"	3.500	4½	(2.33)										
" " "		"	"	6.250	6.160	2.875	2.441	.217	"	"			"	"	3.500	4½	4.00										
" " SPECIAL ETNA		"	"	6.250	6.160	2.875	2.441	.217	"	"			"	"													

3" TUBING-PLAIN

TRADE NAME	DEALER OR MAKER	LAPWELD OR SEAMLESS	MATERIAL (ST. OR W.I.)	WT./FT.-(LBS) Nom. Thread & Coupling	WT./FT.-(LBS) Plain Ends	O.D. (IN.)	I.D. (IN.)	THICKNESS (IN.)	THD'S PER INCH	KIND OF THREADS	LGTH. OF THD'S OVERALL (IN.)	LGTH. OF PERFECT THDS (IN.)	No. OF IMPERF THDS	No. OF VANISH THD'S	REGULAR COUPLINGS O.D. (IN.)	LENGTH (IN.)	WT. EA. (LBS.)	DEPTH OF RECESS (IN.)	DIA. OF RECESS (IN.)	RECESS THDS. (DBL.)	PAT. REINF. COUPLINGS O.D. (IN.)	LENGTH (IN.)	WT. EA. (LBS.)	DEPTH OF RECESS (IN.)	DIA. OF RECESS (IN.)	RECESS THDS. (DBL.)	TUBING TEST PRESSURE (LBS.)
NATIONAL OIL WELL	Nat. Sup. Co.	Lapweld	Steel	7.700	7.575	3.500	3.068	.216	11½	Sper. Standard	1.575	1.140	2	3	4.076	4½	4.455	.375	3.625								1800
" " "	" " "	"	"	8.500	8.388	3.500	3.018	.241	"	"	1.575	"	"	"	4.076	4½	4.455	.375	3.625								2000
" " "	" " "	"	"	10.000	9.910	3.500	2.922	.289	"	"	1.575	"	"	"	4.076	4½	4.455	.375	3.625								2200
NATIONAL DIAMOND B.X.		"	"	9.100	8.805	3.500	2.992	.254	10	"	2.3125	1.810	"	"													
READING	R. Iron Co.	"	Wrought Iron	7.696	7.575	3.500	3.059	.221	8 or 11½	"	1.750	1.315	"	"	4.187	4⅝	5.200	.563	3.562								1800
READING	" " "	"	"	8.500	8.388	3.500	3.008	.246	8 or 11½	"	1.750	"	"	"	4.187	4⅝	5.200	.563	3.562								2000
YOUNGSTOWN STANDARD	Assoc. Supply Co.	"	Steel	7.700	7.575	3.500	3.068	.216	11½	"	1.5625	1.1275	"	"	4.096	4½	4.375										1800
" " "	" " "	"	"	8.500	8.388	3.500	3.018	.241	"	"	1.625	1.190	"	"	4.096	4½	4.375										2000
" " "	" " "	"	"	10.000	9.910	3.500	2.922	.289	"	"	1.625	"	"	"	4.096	4½	4.375										2200
STANDARD	" " "	Seamless	"	8.500	8.388	3.500	3.018	.241	"	"	2.250	1.815	"	"	4.076	4½	4.366	.375	3.593								2000
YOUNGSTOWN CALIFORNIA	" " "	Lapweld	"	7.700	7.575	3.500	3.068	.216	"	"	"	"	"	"	4.125	5⅛	6.34										1800
" " "	" " "	"	"	8.500	8.388	3.500	3.018	.241	"	"	"	"	"	"	4.125	5⅛	6.34										2000
" " "	" " "	"	"	10.000	9.910	3.500	2.922	.289	"	"	"	"	"	"							4.200	6½	8.75				2200
" " "	" " "	"	"	10.000	9.910	3.500	2.922	.289	10	"	"	"	"	"							4.200	6⅞	8.75				2200
REPUBLIC	Repp. Supply Co.	"	"	7.696	7.575	3.500	3.068	.216	11½	"	1.5625	1.125	"	"	4.076	4½	4.366	.4375	3.593								
" " "	" " "	"	"	8.500	8.388	3.500	3.018	.241	"	"	"	"	"	"	4.076	4½	4.366	.4375	3.593								
" " "	" " "	"	"	10.000	9.910	3.500	2.922	.289	"	"	"	"	"	"	4.076	4½	4.366	.4375	3.593								
STANDARD	" " "	Seamless	"	8.500		3.500	3.018	.241	"	"	2.250	1.815	"	"	4.076	4½	4.366	.375	3.843								2000
BYERS OIL WELL	" " "	Lapweld	Wrought Iron	7.696	7.575	3.500	3.059	.221	"	"	1.750	1.315	"	"	4.187	4½	5.200	.562	3.562								1500
" " "	" " "	"	"	8.500	8.388	3.500	3.008	.244	8	"	"	1.125	"	"	4.187	4½	5.200	.562	3.562								2000
" " "	" " "	"	"	10.000	9.910	3.500	2.909	.295	8	"	"	1.781	"	"	4.187	4½	5.200	.562	3.562								2000
READING	R. Iron Co.	"	"	10.000		3.500	2.910	.295	8	"			"	"	4.187	4⅝	5.200	.563	3.562								
" " "	" " "	"	"	9.100		3.500	2.992	.254	10	"	2.875	2.375	"	"							4.107	6⅞		⅞	3.562		
JONES & LAUGHLIN - STANDARD		"	Steel	7.700	7.575	3.500	3.068	.216	11½	"	1.625		"	"	4.076	4½	4.455	.4375									
" " "		"	"	8.500	8.388	3.500	3.018	.241	"	"	"		"	"	4.076	4½	4.455	.4375									
" " "		"	"	10.000	9.910	3.500	2.922	.289	"	"	"		"	"	4.076	4½	4.455	.4375									
REPUBLIC	Assoc. Supply Co.	"	Wrought Iron	10.000	9.910	3.500	2.922	.289	"	"	1.5625		"	"	4.076	4½	4.366	.375	3.843								
SPANG CHALFANT & CO. STANDARD		"	Steel	7.696	7.575	3.500	3.068	.216	"	"			"	"	4.156	4½	5.00										
" " "		"	"	8.500	8.388	3.500	3.018	.241	"	"			"	"	4.156	4½	5.00										
" " "		"	"	10.000	9.910	3.500	2.921	.289	"	"			"	"	4.156	4½	5.00										
SPANG CHALFANT & CO. SPECIAL ETNA		"	"	8.500	8.388	3.500	3.018	.241	"	"											4.218	6½	9.000				
" " "		"	"	9.000	8.741	3.500	2.996	.252	10	"											4.218	6½	8.008				
" " "		"	"	10.000	9.910	3.500	2.921	.289	10	"											4.218	6½	8.002				

3½" TUBING-PLAIN

TRADE NAME	DEALER OR MAKER	LAPWELD OR SEAMLESS	MATERIAL (ST. OR W.I.)	WT./FT.-(LBS) Nom. Thread & Coupling	WT./FT.-(LBS) Plain Ends	O.D. (IN.)	I.D. (IN.)	THICKNESS (IN.)	THD'S PER INCH	KIND OF THREADS	LGTH. OF THD'S OVERALL (IN.)	LGTH. OF PERFECT THDS (IN.)	No. OF IMPERF THDS	No. OF VANISH THD'S	REGULAR COUPLINGS O.D. (IN.)	LENGTH (IN.)	WT. EA. (LBS.)	DEPTH OF RECESS (IN.)	DIA. OF RECESS (IN.)	RECESS THDS. (DBL.)	PAT. REINF. COUPLINGS O.D. (IN.)	LENGTH (IN.)	WT. EA. (LBS.)	DEPTH OF RECESS (IN.)	DIA. OF RECESS (IN.)	RECESS THDS. (DBL.)	TUBING TEST PRESSURE (LBS.)
NATIONAL OIL WELL	N.S.Co.	Lapweld	Steel	9.250	9.109	4.000	3.548	.226	8	Sper. Standard	1.800	1.175	2	3	4.628	4½	6.289	.500	3.625								1500
READING	R. Iron Co.	"	Wrought Iron	9.261	9.109	4.000	3.538	.231	8	"	1.750	1.125	"	"	4.750	4⅝	6.900	.563									1500
YOUNGSTOWN STANDARD	Assoc. Supply Co.	"	Steel	9.250	9.109	4.000	3.548	.226	8	"	1.625	1.000	"	"	4.750	4⅞	6.000										1500
REPUBLIC	Repub. Supply Co.	"	"	9.261	9.109	4.000	3.548	.226	8	"	1.5625	.9375	"	"	4.628	4½	5.510	.625	4.732								
BYERS OIL WELL	" " "	"	Wrought Iron	9.261	9.109	4.000	3.538	.231	8	"	1.810	(1.781)	"	"	4.750	4⅝	6.900	.437	4.062								1500
JONES & LAUGHLIN - STANDARD		"	"	9.250	9.109	4.000	3.548	.226	8	"	1.750		"	"	4.628	4½	6.289	.437									
SPANG CHALFANT & CO. STANDARD		"	"	9.261	9.109	4.000	3.548	.226	8	"			"	"	4.687	4⅝	6.120										

4" TUBING-PLAIN

TRADE NAME	DEALER OR MAKER	LAPWELD OR SEAMLESS	MATERIAL (ST. OR W.I.)	WT./FT.-(LBS) Nom. Thread & Coupling	WT./FT.-(LBS) Plain Ends	O.D. (IN.)	I.D. (IN.)	THICKNESS (IN.)	THD'S PER INCH	KIND OF THREADS	LGTH. OF THD'S OVERALL (IN.)	LGTH. OF PERFECT THDS (IN.)	No. OF IMPERF THDS	No. OF VANISH THD'S	REGULAR COUPLINGS O.D. (IN.)	LENGTH (IN.)	WT. EA. (LBS.)	DEPTH OF RECESS (IN.)	DIA. OF RECESS (IN.)	RECESS THDS. (DBL.)	PAT. REINF. COUPLINGS O.D. (IN.)	LENGTH (IN.)	WT. EA. (LBS.)	DEPTH OF RECESS (IN.)	DIA. OF RECESS (IN.)	RECESS THDS. (DBL.)	TUBING TEST PRESSURE (LBS.)
NATIONAL OIL WELL	N.S.Co.	Lapweld	Steel	11.000	10.790	4.500	4.026	.237	8	Sper. Standard	1.800	1.175	2	2	5.233	4½	8.155	.500	4.625								1500
" " "		"	"	11.800	11.561	4.500	3.990	.255	8	"	1.800	1.175	"	"	5.233	4½	8.155	.500	4.625								1800
NATIONAL DIAMOND B.X.		"	"	12.600	12.240	4.500	3.958	.271	10	"	2.5625	2.0625	"	"													
READING	R. Iron Co.	"	Wrought Iron	10.980	10.790	4.500	4.016	.242	8 or 11½	"	1.875	1.250	"	"	5.250	4⅝	7.500	.563	4.562								1500
" " "	" " "	"	"	11.730	11.561	4.500	3.980	.260	8 or 11½	"	1.875	1.250	"	"	5.250	4⅝	7.500	.563	4.562								1800
YOUNGSTOWN STANDARD	Assoc. Supply Co.	"	Steel	11.000	10.790	4.500	4.026	.237	8	"	1.8673	1.0625	"	"	5.233	4⅞	8.673										1800
" " "	" " "	"	"	11.800	10.790	4.500	3.990	.255	8	"	1.8673	1.0625	"	"	5.233	4⅞	8.673										1800
REPUBLIC	Repub. Supply Co.	"	"	10.980	10.790	4.500	4.026	.237	8	"	1.5625	.9375	"	"	5.233	4½	8.673	.625	4.593								
" " "	" " "	"	"	11.750	11.561	4.500	3.990	.255	8	"	1.5625	.9375	"	"	5.233	4½	8.673	.625	4.593								
BYERS OIL WELL	" " "	"	Wrought Iron	10.980	10.790	4.500	4.016	.242	(10)	"	1.870	(1.250)	"	"	5.250	4⅝	7.500	.437	4.062								1500
" " "	" " "	"	"	11.750	11.561	4.500	3.980	.260	(10)	"	1.870	(1.250)	"	"	5.250	4⅝	7.500	.437	4.062								1500
JONES & LAUGHLIN - STANDARD		"	"	11.000	10.790	4.500	4.026	.237	8	"	1.750		"	"	5.233	4½	8.155	.437									
" " "		"	"	11.800	11.561	4.500	3.996	.255	8	"	1.750		"	"	5.233	4½	8.155	.437									
READING - SPECIAL	R. Iron Co.	"	"	11.750		4.500	3.980	.260	11½	"	2.500										5.125	6¼		⅝			
SPANG CHALFANT & CO. STANDARD		"	"	10.980	10.790	4.500	4.026	.237	8	"			"	"	5.250	4½	7.364										
" " "		"	"	11.750	11.561	4.500	3.990	.255	8	"			"	"	5.250	4½	7.364										
" " SPECIAL ETNA		"	"	11.750	11.561	4.500	3.990	.255	10	"											5.375	7⅛	16.111				

A.P.I. STANDARDIZED DIMENSIONS

SIZE	DIAMETER O.D.	DIAMETER I.D.	UPSET O.D.	LENGTH OF UPSET	WEIGHT # PER FOOT	THREADS No. PER IN.	THREADS TAPER	THREADS TOTAL LENGTH	COUPLINGS O.D.	COUPLINGS LENGTH	COUPLINGS WIDTH OF FLAT ON END OF BEVELED FACE
2	2.375	1.995			4.600	11½	¾	1.6250	2.870	4.250	1.875
2½	2.875	2.441			6.400	11½	¾	2.0625	3.517	5.250	2.500
3	3.500	3.018			8.700	11½	¾	2.3125	4.200	5.875	2.500
3**	3.500	2.922			10.200	11½	¾	2.3125	4.200	5.875	2.500
3½	4.000	3.548			9.500	10	¾	2.3750	4.750	6.000	2.500
4	4.500	3.958			12.600	10	¾	2.5625	5.216	6.375	2.500

REMARKS

* "Weight per foot" includes threads and couplings.
** On Special Order only.

FIGURE 3-A.
CHARTS OF IMPORTANT DIMENSIONS OF PRACTICALLY ALL OLD STYLES OF PLAIN OIL WELL TUBING, ILLUSTRATING SIMPLIFICATION BY ADOPTION OF A. P. I. STANDARDS

Figure 3-B.

UPSET TUBING DIMENSIONS

Classification	Trade Name	Dealer	Size	Lapweld or Seamless	Material (Steel or Wt.)	Weight Thds & Coupl.	(Lbs.) Plain Ends	O.D. (In.)	I.D. (In.)	Thickness (In.)	Upset Length (In.)	O.D. (In.)	Thds./In.	Kind of Thds.	Length of Threads Overall (In.)	Length of Perfect Thds. (In.)	Vanishing Thds.	Hand Tight Vanishing	Couplings: O.D. (In.)	Length (In.)	Wt. Ea. (lbs.)	Depth of Recess (In.)	Dia. of Recess (In.)	Recess to Perfect Thds.	Tubing Test Pressure (lbs.)		
1¼"	National	N.S.Co.	1¼"	Lapweld	Steel	2.400	2.272	1.660	1.380	.140	2.250	1 13/16	11½	3/4 Taper Brigg Stand	1.142	.707	2	3	2.200	2⅞	1.070	.375	1.937		1800		
	Reading	R.I.Co.	1¼"	Lapweld	Wrought Iron	2.300	2.272	1.660	1.374	.143	2.250	1 13/16	11½	"	1.375	.940	2	3	2.200	2⅞	1.049	.188			1800		
1½"	National	N.S.Co.	1½	Lapweld	Steel	2.800	2.717	1.900	1.610	.145	2.250	2 3/32	11½	"	1.159	.724	2	3	2.481	2⅞	1.261	.375	2.218		1800		
2"	National	N.S.Co.	2	Lapweld	Steel	4.600	4.433	2.375	1.995	.190	3.750	2.603	11½	"	1.473	1.038	2	3	3.060	4⅝		.250					
	National	N.S.Co.	2	"	"	4.100	3.938	2.375	2.041	.167	3.250	2 3/16	11½	"	1.473	1.038	"	"	"	3⅝	2.350	.375	2.728		2200		
	National	N.S.Co.	"	"	"	4.600	4.433	"	1.995	.190	"	"	"	"	"	"	"	"	"	"	"	"	"		2500		
	Reading	R.I.Co.	"	"	Wrought Iron	4.000	3.938	"	2.035	.170	2.500	2 1/16	"	"	1.625	1.103	"	"	"	4 1/8	2.900	.437			2200		
	Reading	R.I.Co	"	"	"	4.500	4.433	"	1.987	.194	3.500	"	11½ 10	"	"	1.103 1.125	"	"	"	"	"	"			2.500		
	Byers	Rep. Sup.Co	"	"	"	"	"	"	"	"	3.250	2⅝	11½	"	1.500		"	"	3.125	"	3.000	.375			"		
	Youngstown	Assoc Sup.Co.	"	"	Steel	4.10	3.938	"	2.041	.167			11½ 10	"	1.625	1.190 1.125	"	"	3.06	4 3/16	2.80				2200		
	Youngstown	Assoc Sup.Co.	"	"	"	4.600	4.433	"	1.995	.190			11½ 10	"	"	"	"	"	"	"	"				2500		
	Standard	R.S.Co. A.S.Co.	"	Seamless	"	"	"	"	2.041	"	3.000	2.675	11½	"	1.500	1.065	"	"	3.060	3⅝	2.329	.375			"		
2½"	National	N.S.Co.	2½	Lapweld	Steel	6.400	6.160	2.875	2.441	.217	4.000	3 1/32	11½	"	2.125		2	3	3.668	5⅛		.250					
	National	"	"	"	"	"	"	"	"	"	3.500	"	"	"	1.875	1.440	"	"	"	4⅝	4.532	.375	3.218		2200		
	Reading	R.I.Co	"	"	Wrought Iron	6.250	"	"	2.433	.221	"	"	10	"	1.625	1.125	"	"	"	4⅛		.437			"		
	Byers	Rep. Sup.Co.	"	"	"	"	"	"	2.439	.218	"	3⅛	11½	"	"		"	"	3.750	4¼	4.250	"			"		
	Youngstown	Assoc Sup.Co.	"	"	Steel	6.400	"	"	2.441	.217			11½ 10	"	2.125	1.690 1.625	"	"	3.668	5⅛	4.90				"		
	Standard	R.S.Co. A.S.Co.	"	Seamless	"	"	"	"	"	"	3.500	3⅛	11½	"	1.875	1.44	"	"	"	4⅝	3.891	.375	3.218		"		
3"	National	N.S.Co.	3	Lapweld	Steel	8.900	8.388	3.500	3.018	.241	4.250	3¾	10	"	2.312		2	3	4.504	5⅝	8.652	.500	3.875				
	National	"	"	"	"	"	"	"	"	"	3.750	"	"	"	"	1.812	"	"	"	"	"	"	"	"		2000		
	Reading	R.I.Co.	"	"	Wrought Iron	8.627	"	"	3.008	.246	"	"	"	"	2.125	1.625	"	"	"	5⅛	7.627	.563			"		
	Byers	Rep. Sup.Co	"	"	"	8.500	"	"	"	"	"	4¼	11½	"	2.000		"	"	4.593	5	8.000	.500			"		
	Byers	"	"	"	"	10.000	9.910	"	2.909	.295	"	"	11½	"	"		"	"	"	"	"	"			"		
	Youngstown	Assoc. Sup.Co.	"	"	Steel	8.900	8.388	"	3.018	.241			10	"	2.375	1.875	"	"	4.500	5⅝	8.37				"		
	Standard	R.S.Co A.S.Co.	"	Seamless	"	"	"	"	"	"			"	"	2.250	1.815	"	"	4.504	5⅝ 5⅛	7.627	.375	3.843		"		
4"	National	N.S.Co	4	Lapweld	Steel	12.700	12.240	4.500	3.958	.271	4.500	4¾	10	"	2.500	2.00	2	3	5.349	6⅛	9.706	.500	4.875				
	National	"	"	"	"	"	"	"	"	"	4.000	"	"	"	"	"	"	"	"	"	"	"	"		1800		
	Reading	R.I.Co.	"	"	Wrought Iron.	12.500	"	"	"	.276	"	"	"	"	2.000	1.500	"	"	"	"	9.511	.563			"		
4½"	Reading	R.I.Co	4½	Lapweld	Wrought Iron.	15.500	15.340	5.000	4.375	.312	4.000	5¼	10	"	1.875	1.375	2	3	6.000	6⅝	13.800	.563			1600		

A.P.I. STANDARDIZED DIMENSIONS

Size.	Diameters. O.D.	I.D.	Upset O.D.	Length of Upset	Weight per ft.*	Threads. No. per inch	Taper	Total length	Coupling, O.D.	Length	Width Bearing Face
1¼" Upset.	1.660	1.380	1.81250	2.000	2.400	11½	¾	1.3750	2.200	3.500	.12500
1½" —"—	1.900	1.610	2.09375	2.250	2.900	11½	¾	1.4375	2.500	3.750	.12500
2" —"—	2.375	1.995	2.59375	3.500	4.700	10	¾	1.9375	3.060	4.875	.15625
2½" —"—	2.875	2.441	3.09375	3.750	6.500	10	¾	2.1250	3.668	5.375	.21875
3" —"—	3.500	2.992	3.75000	4.000	9.300	10	¾	2.3750	4.504	6.000	.25000
3½" —"—	4.000	3.476	4.25000	4.000	11.000	10	¾	2.5000	5.000	6.250	.25000
4" —"—	4.500	3.958	4.75000	4.250	12.750	10	¾	2.6250	5.563	6.500	.25000

*"Weight per foot" includes threads and coupling.

FIGURE 3-B.
CHARTS OF IMPORTANT DIMENSIONS OF PRACTICALLY ALL OLD STYLE OF UPSET OIL WELL TUBING, ILLUSTRATING SIMPLIFICATION BY ADOPTION OF A. P. I. STANDARDS.

SUCKER ROD DIMENSIONS

FIGURE 9

Size Inches	Manufacturer	Length	Type of Ends	Pin or Stud Ends: Threads per Inch	Type of Thread	O.D.	Length	Box Ends: Pitch Dia. of Tap	I.D. Tap	O.D.	Length	Pin Collar: Pitch Dia. of Tap	O.D.	Square: Length	Thickness	Pitch Dia. of Tap	I.D. of Tap	Couplings: O.D.	Full Wrenches Len.	Thickness	Len. Inches	Threads are Female of Pin or Stud Length
1/2	Columbus Sucker Rod Co.		P & B	12	U.S.Std.	5/8	1		5/8	1	2		1	7/8	1 1/8	7/16							
	Columbus Sucker Rod Co.		D.P.	12	" "	5/8	1						1	7/16	1 1/2	7/16		5/8	1 1/16	Yes	1 1/4	1 3/16	3	
	Oil Well Supply Co.		P & B	12		5/8	1		5/8	1	1 1/2		1	7/16	1 1/4	3/4			1 1/2	Yes	1 1/4	1 1/4	Not Less than A	
9/16	S.M. Jones Co.	20 & 25	P & B	10	Cadilac	.781			781	1 1/8	Threads 1"		1 1/8		1.00	7/8							
	S.M. Jones Co.	20 & 25	P & B	10	"	.906			906	1 3/8	Thr. 1 1/16		1 3/8		1 1/4	7/8							
	Columbus Sucker Rod Co.		P & B	10	U.S.Std.	.75	1		.750	1	2	1	7/16		1 1/2	11/16							
	Columbus Sucker Rod Co.		D.P.	10	" " "	.75	1					1	7/16		1 1/2	11/16		3/4	1 1/16	Yes	1 1/4	13/16	3	
	Oil Well Supply Co.		P & B	10		25/32	1 1/8		25/32	1 1/8	1 7/8	1 1/8	1/2		1 1/4	3/4							
5/8	Axelson Machine Co.	25 & 30	D.P.	10	Vanishing	.900	1 1/8						1 3/8	3/8	1 3/16	7/8		.900	1 1/2	Yes	1 1/4	1 1/4	4 3/4	1 3/8
	D & B. Pump & Sup. Co.		D.P.	10	V	7/8	1 1/8						1 3/16	3/8	1 1/4		.834	29/32	1 3/8	Yes	1 1/4		4	Full Length
	D & B. Pump & Sup. Co.		D.P.	10	Whit -	15/16	1 1/8						15/16	3/8	1 1/4	13/16	.8735	31/32	1 1/8	Yes	1 1/4	1 1/4	4	" "
	Kansas City Bolt & Nut Co.	25	D.S.	10	worth.	7/8	2 1/32					.886	1 3/8	3/4	1 9/16	1.160	.883	7/8	1 1/16	Yes		1 1/16	2 13/16	" "
	Kansas City Bolt & Nut Co.	25	S & B.	10		7/8	2 3/32	.883	7/8	1 3/8	2 7/16	.886	1 3/8	3/4	1 9/16	1.160								
	Marion Mach. Foundry & S Co.		P & B.	10		7/8	1 1/4		7/8	15/16	2 1/4		1 3/8	3/8	1 3/16	7/8								
	S.M. Jones Co.	25	D.P.	10	Cadilac	.906	1 1/8						1 3/8	3/8	1 1/2	7/8		.906	1 3/8	Round			2 7/8	Full Length
	S.M. Jones Co.	25	D.P.	10	Cadilac	1.008	1 3/16						1 3/8	3/8	1 1/2	7/8		1.008	1 1/2	"			3	" "
	S.M. Jones Co.	20 & 25	D.P.	10	Cadilac	.906	1 1/8						1 1/2	7/16	1 1/4	7/8		.906	1 1/8	Yes			3	" "
	S.M. Jones Co.	20 & 25	P & B.	10	Cadilac	.906			906	1 1/2	Threads 1 7/8		1 1/2		1 1/4	7/8								
	S.M. Jones Co.	25	D.P.	10	Cadilac	.906	1 1/16						1 3/8	3/8	1 1/2	7/8		.906	1 7/16	Yes	1 1/2	7/8	5	
	S.M. Jones Co.	25	D.P.	10	Cadilac	1.008	1 3/16						1 1/2	3/8	1 1/2	7/8		1.008	1 7/16	Yes	1 1/2	1	5 1/4	
	Columbus Sucker Rod Co.	25	P & B	10	U.S.Std.	7/8	1 1/16		7/8	1 5/16	2		1 5/16	1/2	1 1/2	7/8								
	Columbus Sucker Rod Co.		D.P.	10	U.S.Std.	7/8	1 1/16						1 5/16	1/2	1 1/2	7/8		7/8	1 3/8	Yes	1 1/4	1 1/8	3	
	Oil Well Sup. Co.	25 & 30	P & B	10		29/32	1 3/16		29/32	1 3/8	2 1/4		1 3/8	9/16	1 1/4	7/8								
11/16	S.M. Jones Co.	20 & 25	D.P.	10	Cadilac	1.008	1 3/16						1 1/2	9/16	1 3/8	1		1.008	1 1/2	Yes			3	" "
	S.M. Jones Co.	20 & 25	P & B	10	Cadilac	1.008			1.008	1 1/2	Threads 1 5/16		1 1/2		1 3/8	1								
	Oil Well Sup. Co.			10		1 1/32	1 7/16		1 1/32	1 1/2	2 3/16		1 1/2	5/8	1 1/4	7/8								

Size	Manufacturer	Length		Pin or Stud Ends:				Box Ends:				Pin Collar Square:					Coupling:						
3/4	Axelson Mch. Co.	25 & 30	D.P.	10	Vanishing	1.035	1 5/8						1 7/16	1/2	1 5/8	1		1.035	1 5/8	Yes	1 1/4	1 1/4	4 3/4	1 1/16
	D & B. Pump & Sup. Co.		D.P.	10	V	1	1 5/8						1 1/2	1/2	1 1/2	1	.939	1 1/32	1 5/8	Yes	1 1/4	1 1/4	4	Full Length
	D & B. Pump & Sup. Co.		D.P.	10	Whitworth	1 1/16	1 5/8						1 1/2	1/2	1 1/2	1	.9985	1 3/32	1 5/8	Yes	1 1/4	1 3/8	4	" "
	Kansas City Bolt & Nut Co.	25	D.S.	10		1	2 1/8					.954	1 9/16	13/16	2 1/8	1.280	.947	1	1 3/32	Yes			2 7/8	" "
	Kansas City Bolt & Nut Co.	25	S & B.	10		1	2 1/16	.949	1	1 9/16	2 5/8	.954	1 9/16	13/16	2 1/16	1.2800								
	Marion Mach. Foundry & S Co.		P & B.	10		1	1 5/8		1	1 7/16	2 1/2		1 1/2	1 1/2	1 5/8	7/8								
	S.M. Jones Co.	25	D.P.	10	Cadilac	1.008	1 1/16						1 1/4	7/16	1 1/2	1		1.008	1 1/2	Round			3	" "
	S.M. Jones Co.	25	D.P.	10	Cadilac	1.135	1 1/4						1 3/16	7/16	1 1/2	1		1.135	1 5/16	Round			3	" "
	S.M. Jones Co.	20 & 25	D.P.	10	Cadilac	1.008	1 3/16						1 1/2	3/4	1 3/8	1		1.008	1 1/2	Yes			3	" "
	S.M. Jones Co.	20 & 25	P & B.	10	Cadilac	1.008			1.008	1 5/8	Threads 1 5/16		1 5/8		1 3/8	1								
	S.M. Jones Co.	25	D.P.	10	Cadilac	1.008	1 3/16						1 1/2	7/16	1 1/2	1		1.008	1 5/16	Yes	1 1/2	1	5 1/4	
	S.M. Jones Co.	25	D.P.	10	Cadilac	1.135	1 1/4						1 3/16	7/16	1 1/2	1		1.135	1 5/16	Yes	1 1/2	1	5 1/4	
	Columbus Sucker Rod Co.		P & B	10	U.S.Std.	7/8	1 1/8		7/8	1 5/16	2		1 5/16	1/2	1 1/2	7/8								
	Columbus Sucker Rod Co.		P & B	10	U.S.Std.	1	1 1/8		1	1 1/2	2		1 1/2	1/2	1 1/2	1								
	Columbus Sucker Rod Co.		D.P.	10	U.S.Std.	7/8	1 1/8						1 5/16	1/2	1 1/2	7/8		7/8	1 3/8	Yes	1 1/4	1 1/8	3	
	Columbus Sucker Rod Co.		D.P.	10	U.S.Std.	1	1 1/8						1 1/2	1/2	1 1/2	1		1	1 5/8	Yes	1 1/4	1 3/8	3	
	Oil Well Supply Co.		P & B	10		1 3/32	1 1/16		1 1/32	1 3/16	2 3/16		1 3/16	3/8	1 1/2	1								
7/8	Axelson Mech. Co.	20 & 25	D.P.	10	Vanishing	1.147	1 5/8						1 5/8	5/8	1 3/8	1		1.147	1 3/4	Yes	1 1/4	1 1/4	4 3/4	1 1/16
	D & B. Pump & Sup. Co.		D.P.	10	V	1 1/8	1 5/8						1 5/8	1/2	1 1/2	1	1.073	1 3/32	1 3/4	Yes	1 1/4		4	Full Length
	D & B. Pump & Sup. Co.		D.P.	10	Whitworth	1 3/16	1 5/8						1 5/8	1/2	1 1/2	1	1.123	1 7/32	1 7/8	Yes	1 1/4	1 1/2	4	" "
	Kansas City Bolt & Nut Co.	25	B.S.	10		1 1/8	2 5/16					1.064	1 3/4	7/8	1 7/16	1 1/2	1.061	1 1/8	1 3/4	Yes			3 5/16	" "
	Kansas City Bolt & Nut Co.	25	S.B.	10		1 1/8	2 5/16	.1.061	1 1/8	1 5/8	3 1/8	1.064	1 3/4	7/8	1 7/16	1 1/2								
	Marion Mach. Foundry Co.		P & B.	10		1 1/4	1 5/8		1 1/4	1 3/4	2 3/4		1 3/4	5/8	1 1/2	1 1/8								
	S.M. Jones Co.	25	D.P.	10	Cadilac	1.135	1 1/4						1 3/4	1/2	1 1/2	1 1/2		1.135	1 3/4	Round			3	Full Length
	S.M. Jones Co.	25	D.P.	8	Cadilac	1.266	1 1/4						1 7/8	1/2	1 1/2	1 1/8		1.266	1 7/8	Round			3	" "
	S.M. Jones Co.	20 & 25	D.P.	10	Cadilac	1.135	1 1/4						1 3/4	3/4	1 3/8	1 1/4		1.135	1 3/4	Yes			3 1/8	" "
	S.M. Jones Co.	20 & 25	P & B.	8	Cadilac	1.226			1.226	2 1/4	Threads 1 7/16		2 1/4		1 3/8	1 1/2								
		25	D.P.	10	Cadilac	1.135	1 1/4						1 3/4	1/2	1 1/2	1 1/8		1.135	1 3/4	Yes	1 1/2	1 1/4	5 1/4	
	Columbus Sucker Rod Co.		P & B.	8	U.S.Std.	1 1/8	1 1/8		1 1/8	1 1/2	2		1 1/2	1/2	1 1/2	1					1			
	Columbus Sucker Rod Co.		D.P.	8	U.S.Std.	1 1/8	1 1/4		1 3/16	1 5/16	2 3/8		1 1/2	1/2	1 1/2	1		1 1/8	1 3/4	Yes	1 1/4	1 1/2	3	
	Oil Well Supply Co.		P & B.	10		1 5/64	1 5/16						1 1/16	3/4	1 3/4	1								
1	Axelson Mech. Co.	20 & 25	D.P.	10	Vanishing	1.290	1 5/8						1 3/4	5/8	1 5/8	1 1/8		1.290	2	Yes	1 1/4	1 1/2	5	1 11/16
	S.M. Jones Co.	20 & 25	D.P.	8	Cadilac	1.266	1 1/4						2	3/4	1 3/8	1 5/8		1.266	2	Yes			3 1/8	Full Length
	S.M. Jones Co.	20 & 25	P & B.	8	Cadilac	1.266			1.266	2 1/4	Threads 1 7/16		2 1/4		1 3/8	1 5/8								
	Columbus Sucker Rod Co.		P & B.	8	U.S.Std.	1 1/4	1 1/4		1 1/4	1 3/4	2 1/4		1 3/4	9/16	2	1 1/8								
	Columbus Sucker Rod Co.		D.P.	8	U.S.Std.	1 1/4	1 1/8						1 3/4	9/16	2	1 1/8		1 1/4	1 7/8	Yes	1 1/4	1 5/8	3	
	Oil Well Sup. Co.		P & B.	8		1 31/32	1 7/16		1 15/32	1 13/16	2 13/16		1 15/16	7/16	1 3/4	1 1/4								

A.P.I. STANDARD DIMENSIONS

Size of Rod	Nominal Outside Dia. of Pin	Outside Dia. of Collar & Box	Outside Dia of Coupling Double Pin Rod	Length of Pin	Length of Box on Box & Pin Rod	Total Depth of Box on Box and Pin Rod	Length of Wrench Sq. on Box & Pin of Box & Pin Rod	Length of Wrench Sq. on Coupling Double Pin Rod	Dia of Upset Shoulder on Pin & Box	Width of Hollow coupling square on Flat	Wrench Square Pin & Box and Solid Coupling	Min. length of coupling Double Pin Rod
5/8	15/16	1 5/8	1 1/2	1.1250 +.0600 -.0000	2 1/8 Min.	1 5/8	1 1/4	1 1/4	Not over 1 3/8	1 3/8 ± 1/32	1 ± 1/32	4
3/4	1 1/16	1 1/2	1 1/2 or 1 3/4*	1.3750 +.0600 -.0000	2 3/8 Min.	1 7/8	1 1/2	1 1/4	" " 1 1/2	1 3/8 ± 1/32	1 ± 1/32	4
7/8	1 3/16	1 11/16	1 7/16	1.3750 +.0600 -.0000	2 3/8 Min.	1 7/8	1 1/2	1 1/4	" " 1 11/16	1 3/8 ± 1/32	1 ± 1/32	4

* Optional and must be specified by purchaser - 1 7/16" O.D. for 2" Tubing and 1 3/4" O.D. for larger sizes of Tubing

FIGURE 9.
CHARTS OF IMPORTANT DIMENSIONS OF PRACTICALLY ALL STYLES OF SUCKER RODS, ILLUSTRATING SIMPLIFICATION BY ADOPTION OF A. P. I. DESIGNS

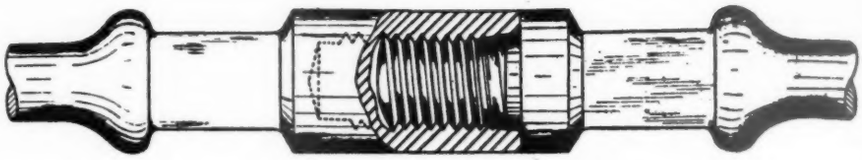
first or second thread. At the base of the pin a fillet is provided between the pin cylinder and pin collar. This again is an accepted principle of engineering design to provide against pin breakage at the contact of the pin cylinder and the pin collar.

The sucker rod coupling for double pin rods is of larger diameter than the pin collar in order to provide stock in the coupling which will wear and at the same time prevent wear of the pin collar. As couplings wear down to or near the diameter of the pin collar, they can be replaced with new couplings at low cost and the entire length of the sucker rod preserved for further use. This would not be possible if the outside diameter of the coupling was the same as the outside diameter of the pin collar, because the rod itself would wear in that case and would require replacing as wear became great.

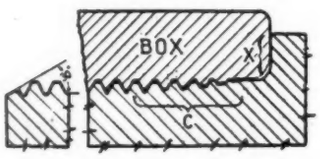
The A. P. I. sucker rod joint is so designed that the face of the coupling makes contact with the face of the pin collar, as shown at "X," Figure 10. In making up A. P. I. sucker rod joints in the field, the coupling should always be shouldered against the pin collar face. However, the tolerances on A. P. I. sucker rod threads are so narrow and the gauging system provided is so accurate that the threads will always make up tight and thus make additional provision against unscrewing.

Thus while the A. P. I. sucker rod joint is not an exact duplicate of any sucker rod joint now sold by manufacturers, it includes the best principles of design of several different makes and is expected to provide a superior joint. Manufacturers have advised that excellent reports of performances are being received.

The problem of deep well pumping is one of grave concern both to oil operators and to sucker rod manufacturers. In California, wells of 5000 feet and more in depth are being pumped and wells up to 6800 feet are now flowing, but some day may require pumping. It is believed that the A. P. I. design of sucker rod joint will meet the requirements of present deep wells, provided manufacturers are able to develop alloy steels or heat treating processes which will increase the strength of rods beyond the strengths of present sucker rod steels. In other words, the sucker rod problem at this time appears to be one of materials rather than design.



A. P. I. BOX AND PIN TYPE JOINT



THREAD DETAILS OF A. P. I. PIN AND BOX

FIGURE 10
DETAILS OF A. P. I. STANDARD SUCKER ROD JOINT

Many producers are specifying these rods and a canvass of rod manufacturers has shown that 3,454,340 feet of these unofficial A. P. I. rods have been sold. This is an equivalent of 874 strings of A. P. I. rods, each 4000 feet long. To date Mid-Continent operators have purchased 3,139,950 feet and California operators 314,390 feet of unofficial A. P. I. rods.

Excepting in a few instances, field service records are not available by which these rods can be compared to the ones formerly in the same wells. However, where these records are available, it is found that the A. P. I. joint is giving as good or better service than in the same make of rod formerly in the well. The following tabulation of rod trouble on four wells where A. P. I. rods are in use illustrates the small amount of trouble being experienced:

(Continued next week)

Heat Treating Company

Los Angeles.—The Heat Treating Specialty Company, a California corporation, is building a plant in Long Beach and expects to be open for business by March 1. Sucker rods, casing, tubing, drill pipe, etc., will be heat treated full length to develop the maximum strength of the metal, according to officials of the new company. A complete machine shop will be operated in connection with the heat treating plant. The officers of the new corporation are John McKeon, president; F. F. Hill, vice-president; J. P. Cooney, secretary; F. M. Banks, treasurer, and C. S. Head, general manager.

Wichita, Kan. — Kentucky Hydrogen and Oxygen Company has completed Dobson 1, in section 24-33-6, south of Dexter, Kansas, flowing 6,500,000 feet of gas containing a large helium content from the 1000 foot sand. This gas is produced solely for its helium value, which is treated in the Dexter helium plant and sold to the U. S. Navy for balloons, blimps and dirigibles. Dobson 2 well was completed in the same section for 1,500,000 cubic feet.

Well	Kind of Rods	Period of Observation—Days	Rod Troubles: Pin Breaks	Rod Breaks	Unscrewed Jobs	Total, Including Miscl. Troubles
No. 1	Make A—API	33	0	1	0	1
No. 2	Make A—API	128	1	0	0	1
No. 3	Make A—API	156	3	0	0	3
No. 4	Make A—API	163	0	0	1	1
Total	.....	480	4	1	1	6

These figures show a total of 5 breaks and 1 unscrewed job in 480 days of service. The wells in which these rods are working are all more than 4000 feet in depth. Other comparative records between rods of different make in the same well have indicated that, given a reasonably good design of joint, the quality of the product is more important than the exact detail of design of the joint.

These service records will be greatly increased as time goes on, for a number of producers, both in the Mid-Continent and California, have signified their willingness to keep careful field service records to assist in studying the sucker rod problem.

Youngster Scouted Seminole for Prairie Oil and Gas Company During the Big Days

CHESTER F. KIMBALL scouted Seminole at the age of 19. He went there before the big rush started as a greenhorn "country kid," backed with nothing but nine months experience as a roustabout in an old settled field, the confidence of his company, and a lot of nerve. Now it's all over but the shouting, as far as hectic scouting trials are concerned at Seminole, and Kimball is still on the job, none the worse for wear, and a better man by an infinite per cent.

This fighting little Irishman, who works for the Prairie Oil & Gas Company, the outfit that figured he could hold his share of their fort in one of the maddest rushes the industry has ever known, did more than get by on the job—he is now recognized as one of the best in the Shawnee territory, and this estimate comes from the scouting forces there as well as producers, company executives, and others generally interested in and around Seminole. And, incidentally, being classed among the best at Seminole carries with it a powerful significance, for it was the logical move of the operating concerns to man their scouting jobs in that rush with reliable material.

Kimball has the makings of a great oil man. He is the son of a great oil man, and the supreme initial test he passed has made many of the men classed as great figures in the industry today. C. N. Kimball, his father, of Sistersville, West Virginia, is listed in the ranks of the old oil heads of the Eastern producing territory. He is a director and attorney for the Wiser Oil Company, formerly a counsel for the original Carter Oil Company in West Virginia prior to the sale of that organization to the Hope Natural Gas Company, attorney for the Amerada Petroleum Corporation, serving in an advisory capacity in the East, an attorney for the B. & O. Railroad, and a graduate of Harvard University.

Born in the center of the West Virginia oil country, at Sistersville, in February, 1908, young Kimball inherited and was brought up in the oil atmosphere. At the age of 10, with the aid of his younger sister and neighborhood friends, Chester was drilling dry holes to a depth of 150 feet with three joints of clothes line tied to a window weight. His chief outdoor sports, common among Sistersville boys, was "follow the leader" and "tag" around and over derricks lining that country. His education was in Andover Academy, Andover, Massachusetts.

Following two years in Andover, Chester came west for a few hard knocks and some "horse senes." He found what he was looking for after getting a job as roustabout for the Prairie at Davenport, Oklahoma. His 125 pounds and five feet, five inches heighth dug a lot of ditches at Davenport, and the attitude with which he hit the proverbial ball on the lease and the interest he displayed in wanting to learn, is credited with getting him in the company's scouting department.

In November, 1926, he took offices at Shawnee, and started scouting the proven territory in the Greater Seminole area. During the busiest part of the boom he had charge of Seminole City, Searight, Bowlegs and Earlsboro fields. Recently he has been given the Little River pool to cover.

Requirements for scouting Seminole during the boom were many and varied. A good automobile driver was a prerequisite as long as the roads permitted this type of transportation. Being a good horseback rider was fairly essential, and the art of hopping freight trains came in mighty handy. And a good cross-country hiker was not to be scoffed at. Kimball learned the latter at a time when it became necessary for him to walk four miles from Seminole City to Searight and return within a given period when ankle-deep mud was a choicy spot.

But success in his man's-size job comes, no doubt, from things he had previously learned—chiefly that a little education did not make the world owe him a living for the mere collection, but rather gave him the opportunity of possibly advancing a little faster in whatever he tackled.

CHESTER F. KIMBALL

West Texas Production

CRANE COUNTY

	Producing Wells	Daily Average Prod.
Church & Fields —		
Simms Oil Co. & Atlantic Oil Prod. Co.	31	14,985
Prairie Oil & Gas Company	11	13,175
Landreth Production Corporation	16	9,830
Tidal Oil Co. & Turman-Maxwell	24	7,845
Humble Oil & Refining Co.	13	5,460
Eastland Oil Co. & Collett-O'Keefe	8	4,970
Magnolia Petroleum Company	33	4,265
Pecos Oil Company	15	4,250
Independent Oil & Gas Company	7	*2,115
Gulf Production Company	10	1,595
Church-Fields & Bert Weekly	3	1,190
The Texas Company	2	225
Geo. Church & Bob Fields	2	215
Stidham & Thrasher	1	15
Totals	176	70,135
Gulf-McElroy—		
Gulf Production Company	57	18,385
Gulf-Waddell—		
Gulf Production Company	1	25
Marland-Hughes—		
Marland Oil Company	16	595
The Texas Company	9	190
McMan Oil & Gas Company	2	60
Independent Oil & Gas Company	1	5
Totals	28	850
Totals for Crane County	262	89,395

UPTON COUNTY

Texas & Pacific Coal & Oil Co.	17	2,310
Dixie Oil Company	36	2,110
Roxana Petroleum Corp.	36	2,005
Marland Oil Company	70	1,640
Prairie Oil & Gas Company	8	1,560
Gulf Production Company	15	1,325
The Texas Company	22	1,015
Humble Oil & Refining Company	10	970
Independent Oil & Gas Company	26	610
Champlin Refining Company	3	545
Orient Oil Operating Co.	1	275
Amerada Petroleum Corp.	6	265
Snowden & McSweeney	1	165
Sun Oil Company	10	160
Wentz Oil Corporation	3	110
Republic Prod. Co. & Marland Oil Co.	6	100
Tidal Oil Company	3	95
Simms Oil Company	3	45
The Texas Company (was Pure Oil Co.)	1	40
Bryant & Atlantic Oil Prod. Co.	2	35
Atlantic Oil Producing Company	1	25
McMan Oil & Gas Company	2	20
Texon Oil & Land Company	1	15
White Eagle Oil & Refining Co.	1	10
Totals	282	15,450

REAGAN COUNTY

Big Lake Oil Company	127	16,390
Texon Oil & Land Company	79	6,080
Totals	206	22,470

PECOS COUNTY

Mid-Kansas & Transcontinental Oil Co.	47	*15,370
The California Company	15	*12,330
Gulf Production Company	11	*6,840
Gulf Prod. Co. (Crockett County)	3	*730
Roxana Petroleum Corporation	12	*6,130
McMan O. & G. Co. & Marland Oil Co.	15	*3,985
Simms Oil Company	6	*3,180
Humble Oil & Refining Co.	9	*2,560
Marland Oil Company	10	*655
Red Bank Oil Company	2	*445
Pandem Oil Corp. & Gibson Oil Corp.	3	*250
Mazda Oil Corp. & Savoy Oil Co.	1	*235
Kirby Pet. Co. & Edson Pet. Co.	1	*100
Osage Oil Corp. & T. T. Word	1	*70
Totals	136	52,880

WINKLER COUNTY

	Producing Wells	Daily Average Prod.
Independent Oil & Gas Company	5	*12,650
Roxana Petroleum Corporation	5	*9,510
Gulf Production Company	6	*9,180
Landreth Prod. Corp. & Roxana	4	*8,270
Humble Oil & Refining Co.	4	*7,580
Atlantic Oil Producing Company	4	*7,035
Southern Crude & R. A. Westbrook	5	6,925
Cranfill-Reynolds et al	3	*6,085
Southern Crude & Dixie Oil Co.	8	*5,915
Magnolia Petroleum Company	3	4,260
Republic Production Company	1	3,795
Pure Oil Co. & The Texas Co.	3	*2,805
Joe Maxwell & L. C. Turman	2	*2,405
Murchison-Cranfill Bros. Oil Co.	4	1,995
Texon Oil & Land Company	2	*1,590
Llano Oil Co. & Roxana	1	20
Totals	60	90,020

HOWARD COUNTY

Magnolia Petroleum Company	44	4,560
Marland Oil Company	35	1,200
Sweeney & Henry	2	395
Pure Oil Company	4	330
Lockhart & Company	7	140
Bristow & Merrick	4	135
F-H-E Oil Company	2	100
Coyle-Concord Oil Company	2	85
Ward Oil Company	1	85
Godley Oil & Gas Company	1	80
Mid-West Exploration Co.	2	55
L. C. Harrison et al	2	45
Humble Oil & Refining Company	2	40
Tidal Oil Company	2	40
Merrick & Lamb	2	35
Vitek Oil Company	1	...
Marland Oil Co. & Group One Oil Corp.	1	25
Gulf Production Company	2	20
Comet Petroleum Company	2	15
Owen-Sloan Oil Company	1	15
Totals	117	7,500

JONES COUNTY

Phillips Petroleum Company	12	850
Marland Oil Company	3	345
Mid-West Exploration Co.	4	120
Stebbins Oil & Gasoline Co.	1	15
Totals	20	1,330

MITCHELL COUNTY

The California Company	97	2,390
Magnolia Petroleum Company	22	495
Atlantic Oil Producing Company	8	195
Eastland Oil Company et al	9	170
Tidal Oil Company	2	30
Fred Carey et al	1	20
Totals	139	3,300

CROCKETT COUNTY

Humble O. & R. Co. & Marland Oil Co.	12	595
Gulf Production Company	6	360
Cushing Ref. & Gasoline Co.	2	355
E. L. Smith Oil Company	5	210
Pecos Oil Company	3	130
Republic Production Company	2	120
C. A. Jones et al	1	25
Roxana Petroleum Corporation	1	10
Totals	32	1,805

FISHER COUNTY

The Texas Company	1	155

RUNNELS COUNTY

Vacuum Oil Co. & Hill-Ladd	1	75

LOVING COUNTY

Lockhart & Company	1	70

SCURRY COUNTY

The Northwest Company	5	50

ECTOR COUNTY

The Texas Co. & J. S. Cosden	1	15
Totals for all fields	1263	284,515
Totals previous week all fields	1257	275,360

*Production partially pinched.

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1926	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Ave.	United States Total
January	445,950	99,600	256,500	90,100	43,800	178,000	100,450	101,700	618,750	1,934,850	59,979,900
February	450,300	102,050	246,600	91,550	45,300	169,400	98,950	101,050	604,950	1,910,150	53,483,900
March	457,900	103,000	260,500	91,950	48,800	165,700	97,800	102,100	604,400	1,932,150	59,897,250
April	464,850	102,600	265,600	90,900	51,550	170,750	101,750	107,300	600,650	1,955,950	58,678,000
May	463,350	106,150	280,050	93,700	59,100	175,700	106,100	111,650	602,400	1,998,200	61,944,950
June	459,100	107,900	305,100	91,350	60,350	166,950	106,050	113,300	607,550	2,017,650	60,529,350
July	456,700	110,450	336,300	116,550	57,100	161,650	104,650	107,750	614,400	2,065,550	64,032,300
August	465,300	111,750	383,800	162,800	56,800	157,350	108,600	110,600	608,900	2,165,900	67,143,450
September	466,050	113,400	403,750	175,200	56,850	153,250	110,200	104,700	598,150	2,181,550	65,446,500
October	503,350	114,650	444,700	169,900	58,200	149,500	109,450	98,500	614,200	2,262,450	70,136,500
November	550,700	115,800	477,000	176,900	56,450	143,700	111,150	92,900	643,650	2,368,250	71,047,550
December	564,250	118,800	480,800	181,900	54,800	138,600	110,050	85,650	660,400	2,395,250	74,252,700
1927											
January	598,500	117,200	466,400	173,900	52,900	131,550	107,850	84,450	653,450	2,386,200	73,972,150
February	693,350	116,250	479,800	154,600	52,800	128,200	107,150	85,300	642,700	2,460,150	68,884,300
March	710,350	116,100	475,000	154,750	51,450	124,500	104,400	87,600	640,850	2,465,000	76,414,900
April	723,700	115,400	477,300	155,100	50,500	113,350	108,000	89,350	644,550	2,477,250	74,317,750
May	742,200	114,600	488,700	151,300	47,450	112,700	114,000	89,300	633,550	2,493,800	77,307,700
June	768,600	112,200	480,800	151,650	49,150	112,450	111,850	86,050	638,550	2,511,300	75,338,900
July	846,750	107,750	475,800	142,950	56,200	109,900	111,800	86,950	620,700	2,558,800	79,322,300
August	832,900	105,100	483,450	139,350	56,950	104,750	114,600	80,750	621,450	2,539,300	78,717,850
September	797,450	105,200	493,750	142,900	53,450	101,350	110,800	74,500	637,250	2,516,650	75,498,900
October	782,300	105,100	497,900	138,400	51,300	100,450	113,600	73,250	629,000	2,491,300	77,230,000
November	766,900	106,650	501,750	138,100	49,400	97,850	114,900	75,050	623,850	2,474,450	74,233,500
December	720,700	106,150	531,650	138,500	47,200	94,950	111,250	77,150	624,600	2,452,150	76,017,050
1928											
January 7	674,900	107,300	517,450	132,750	44,600	90,150	110,000	77,700	624,200	2,379,050	16,653,350
January 14	683,050	105,500	522,250	123,800	45,400	89,950	110,000	77,550	615,600	2,373,100	16,611,700
January 21	676,950	108,600	527,750	126,500	45,350	90,050	110,250	78,850	616,600	2,380,900	16,666,300
January 28	670,250	110,800	522,000	121,350	45,700	90,100	109,000	72,750	613,300	2,355,250	16,486,750
Increase	.....	2,200	.....	.....	350	50	.....	.....	.....	.....	.....
Decrease	6,700	.....	5,750	5,150	.....	.....	1,250	6,100	3,300	25,650	179,550

TEXAS

(Outside Gulf Coast)

PANHANDLE DISTRICT

	Jan. 28	Jan. 21
Hutchinson County	49,400	52,200
Gray County	18,300	15,600
Carson County	7,700	7,800
Wheeler County	1,450	1,250
Others	50	50
Totals	76,900	76,900

NORTH TEXAS

Burkburnett	12,100	12,050
Electra	11,200	11,300
Iowa Park-KMA	1,800	1,900
Wilbarger	10,500	10,600
Archer County	21,850	22,000
Clay County (Petrolia)	550	550
Baylor County	100	100
Montague and Cooke Cos.	14,350	14,550
Totals	72,450	73,050

WEST CENTRAL TEXAS

Stephens County	7,500	7,600
Eastland-Desdemona	8,250	8,500
Brown County	14,950	15,200
Coleman County	1,000	1,000
Callahan County	3,900	4,000
Shackelford County	5,700	5,550
Young County	9,550	9,700
Throckmorton County	1,150	1,200
Jack County	1,700	1,650
Palo Pinto County	500	450
Others	500	500
Totals	54,700	55,300

WEST TEXAS

Jones County	1,250	1,208
Mitchell-Scurry Cos.	3,300	3,400
Howard County	7,000	6,900
Crane-Upton Counties	94,500	104,900
Reagan County	22,450	22,500
Crockett County	2,900	2,700
Pecos County	51,000	49,650
Winkler County	85,100	80,350
Others	2,000	2,100
Totals	269,500	273,700

EAST CENTRAL TEXAS

Mexia	7,800	7,850
Currie	600	600
Richland	600	650
Wortham	2,000	2,050
Corsicana-Powell	12,500	12,600
Nigger Creek	1,800	1,850
Totals	25,300	25,600

SOUTHWEST TEXAS

Luling	13,000	13,050
Lytton Springs	1,600	1,600
Somerset	800	800
Laredo District	6,750	6,950
Dale	600	400
Others	400	400
Totals	23,150	23,200
T'tl Tex. (Outside Gulf Coast)	522,000	527,750

TEXAS GULF COAST

West Columbia	8,600	8,600
Damon Mound	850	850
Big Creek	1,900	2,000
Boling	2,100	2,300
Blue Ridge	3,850	4,150
Pierce Junction	10,000	10,350
Humble	1,700	1,800
Goose Creek	7,400	7,700
South Liberty	2,100	2,150
Hull	12,050	12,250
Saratoga	1,050	1,050
Batson	1,300	1,300
Sour Lake	3,700	3,650
Spindle Top	41,200	44,950
Orange County	4,950	5,200
Barbers Hill	900	900
Others	2,000	2,200
Totals	105,650	111,400
Texas Total	627,650	639,150

OKLAHOMA

North Braman	3,000	3,100
South Braman	1,700	1,900
Blackwell	3,800	3,850
Hubbard	2,950	2,850
Thomas	1,800	1,750
Tonkawa	15,050	14,950
Garber	9,950	9,950
Burbank	37,750	39,000
Osage (outside Burbank)	29,650	29,700
Watchorn	1,150	1,150
Cushing	21,050	21,100
Yale Jennings	9,000	9,000
Davenport	2,400	2,450
Bristow Slick	24,550	24,600
North Okmulgee	15,900	15,900
Lyons Deaner	6,050	6,100
Stroud	1,050	1,050
Cromwell	10,400	10,050
Papoose	5,100	5,200
Wewoka	8,550	8,300
Seminole	57,050	56,600
Bowlegs	99,600	99,650
Searight	19,350	20,050
Little River	37,150	36,650
Earlsboro	119,350	124,400
Duncan District	6,700	6,700
Graham	5,900	6,250
Fox	1,800	1,850
Healdton	14,400	14,600
Hewitt	8,900	9,000
Scholem Alechem	12,400	12,800
Others	76,800	76,450
Totals	670,250	676,950

CALIFORNIA

Santa Fe Springs	38,500	38,500
Long Beach	114,000	114,500
Huntington Beach	60,500	60,500
Torrance	20,000	20,000
Dominguez	13,000	13,000
Rosecrans	8,000	8,000
Inglewood	31,000	31,000
Midway-Sunset	80,500	80,500
Ventura Avenue	52,500	53,500
Seal Beach	41,500	41,500
Others	153,800	155,600
Totals	613,300	616,600

KANSAS

Greenwood County	30,100	30,200
Florence-Covert	1,450	1,450
Peabody-Ebling	3,800	3,750
Eldorado-Towanda	14,250	14,250
Augusta-Fox Bush	4,200	4,200
Rainbow Bend	1,900	1,900
Russell	2,250	2,300
Churchill	12,050	12,050
Oxford	15,800	.....
Others	25,000	38,500
Totals	110,800	108,600

NORTH LOUISIANA

	Jan. 28	Jan. 21
Homer	4,400	4,400
Haynesville	6,300	6,300
Caddo Light	11,750	11,500
Caddo Heavy	3,950	3,900
DeSoto-Red River	4,200	4,150
Elm Grove	600	650
Bellevue	1,000	1,000
Cotton Valley	4,400	4,400
Urania	8,300	8,350
Pleasant Hill	800	700
Totals North Louisiana	45,700	45,350

LOUISIANA GULF COAST

Evangeline	1,100	1,100
Vinton	4,650	4,550
Lockport	4,850	4,800
Edgerly	1,700	2,050
Others	3,400	2,600
Total Louisiana Gulf Coast	15,700	15,100
Louisiana Total	61,400	60,450

ARKANSAS

El Dorado	5,150	5,200
Smackover Light	8,800	8,850
Smackover Heavy	69,100	68,700
Stephens	1,100	1,150
Nevada	2,700	2,850
Lisbon	2,450	2,500
Champagnolle	700	700
Others	100	100
Totals	90,100	90,050

MOUNTAIN STATES

WYOMING

Salt Creek	37,800	44,150
Grass Creek	2,450	2,500
Elk Basin	1,000	900
Big Muddy	2,750	2,650
Lost Soldier	2,750	2,700
Rock River	2,550	2,700
Lance Creek	600	650
Others	3,250	2,250
Totals	53,150	58,500

MONTANA

Cat Creek	1,750	1,750
Sunburst	8,500	9,000
Others	150	200
Totals	10,400	10,950

COLORADO

Moffats (Craig)	1,250	1,300
Fort Collins	3,100	2,950
Florence	850	950
Others	1,750	1,800
Totals	6,950	7,000

NEW MEXICO

Artesia	1,250	1,250
Rattlesnake	150	300
Hogback	650	650
Others	200	200
Totals	2,250	2,400
Totals Mountain States	72,750	78,850

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y. 109,000 110,250

PRODUCTION SUMMARY

East of Rockies	1,669,200	1,685,450
United States	2,355,250	2,380,900

CRUDE OIL PRICE QUOTATIONS

CRUDE PRICE CHANGES

January 25—Effective at the opening of the market today, Ohio Oil Company has advanced the posted price of Kevin-Sunburst, Montana crude 15 cents, making the price $1.50 per barrel.

CURRENT POSTINGS

	Feb. 1 1928
EASTERN STATES	
New York Transit	$2.80
Bradford District	2.80
National Transit	2.65
Southwest	2.65
Eureka	2.60
Buckeye	2.35
Macksburg	2.80
Gaines	2.60
Somerset	1.60
Cabell	1.50
Ragland	.95
Corning, 35-cent grade	1.45
Corning, 25-cent grade	1.55
Keister	1.10
CENTRAL STATES	
Illinois	1.60
Indiana	1.48
Lima	1.71
Plymouth	1.33
Princeton	1.60
Waterloo	1.35
Wooster	1.57
WESTERN KENTUCKY	
Posted by Stoll Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, All grades	1.50
MID-CONTINENT	
Prairie, Sinclair, Gulf, Texas and Magnolia*	
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gracity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

*Magnolia's price for below 30 gravity is $1.05.

	Feb. 1 1928
NORTH AND CENTRAL TEXAS	
Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs crude.	
Humble O. & R. Co. and Texas Co.*	
Below 25 gravity	.90
25 to 25.9 gravity	1.06
26 to 26.9 gravity	1.08
27 to 27.9 gravity	1.10
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.0 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

Corsicana Heavy, $1.00 per barrel, posted by Magnolia.

*The Texas Company's Postings begin at 28 to 28.9.

	Feb. 1 1928
SOUTH TEXAS	
Mirando	1.00
SOMERSET	
Grayburg	
Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17
GULF COAST	
Grade "A" all companies	1.20
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.17
26 to 26.9 gravity	1.19
27 to 27.9 gravity	1.21
28 to 28.9 gravity	1.23
29 to 29.9 gravity	1.25
30 to 30.9 gravity	1.27
31 to 31.9 gravity	1.29
32 to 32.9 gravity	1.31
33 to 33.9 gravity	1.33
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.37
36 to 36.9 gravity	1.39
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.43
39 to 39.9 gravity	1.45
40 and above	1.47

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

CALIFORNIA CRUDE OIL PRICES AT THE WELL

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated.)

Gravity (degrees)	Signal Hill	Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Torrance	Richfield	Whittier La Habra		Coyotte Hill	Santa Fee Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler
14-14-9	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
16-16-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
17-17-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
18-18-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
19-19-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
20-20-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	..	.77	.77	.77	.76	.76
21-21-9	.86	.86	.86	.86	.86	..	.86	.86	.85	.85	.86	.85	..	.79	.79	.79	.77	.77
22-22-9	.87	.87	.87	.87	.87	..	.87	.87	.85	.85	.87	.85	..	.81	.81	.81	.78	.78
23-23-9	.88	.88	.88	.88	.88	..	.88	.88	..	.85	.88	.85	..	.83	.83	.83	.79	.79
24-24-9	.89	.89	.89	.89	.89	..	.89	.89	..	.85	.89	.85	..	.85	.85	.85	.80	.80
25-25-9	.90	.90	.90	.90	.90	.90	.90	.90	..	.86	.90	.86	..	.87	.87	.87	.81	.81
26-26-9	.92	.92	.92	.92	.92	.92	.92	.92	..	.87	.91	.87	..	.89	.89	.89	.83	.82
27-27-9	.94	.94	.94	.94	.94	.94	.94	.94	..	.88	.92	.88	..	.91	.91	.91	.85	.83
28-28-9	.96	.96	.96	.96	.96	.96	.96	.96	..	.89	.93	.89	..	.93	.93	.93	.87	..
29-29-9	.98	.98	.98	..	.98	.98	..	1.00	..	.91	.95	.93	..	.99	.99	.99	.91	..
30-30-9	1.00	1.00	1.00	..	1.00	1.00	..	..	..	..	..	.95	..	1.02	1.02	1.02	.93	..
31-31-9	1.03	1.03	1.03	..	..	1.03	..	..	..	..	..	.97	..	1.05	1.05	1.05	.95	..
32-32-9	1.06	1.06	1.06	..	..	1.06	..	..	..	..	..	.99	..	1.08	1.08	1.08	.97	..
33-33-9	..	..	..	..	..	1.09	..	..	..	..	..	1.01	..	..	..	1.11	.99	..
34-34-9	..	..	..	..	..	1.12	..	..	..	..	..	1.03	..	..	..	..	1.01	..
35-35-9	..	..	..	..	..	1.15	..	..	..	..	..	1.06	..	..	..	..	..	..
36-36-9	..	..	..	..	..	1.18	..	..	..	..	..	1.09	..	..	..	..	..	..
37-37-9	..	..	..	..	..	1.21	..	..	..	..	..	1.12	..	..	..	..	..	..
38-38-9	..	..	..	..	..	1.24	..	..	..	..	..	1.15	..	..	..	..	..	..
39-39-9	..	..	..	..	..	1.27	..	..	..	..	..	..	..	..	..	..	..	..
40-40-9	..	..	..	..	..	1.30	..	..	..	..	..	..	..	..	..	..	..	..
41-41-9	..	..	..	..	..	1.33	..	..	..	..	..	..	..	..	..	..	..	..
42-42-9	..	..	..	..	..	1.36	..											

This Sign brings the motorist in ! and the Sinclair method of recommending Opaline brings him back !

Authorized Dealer

SINCLAIR OPALINE MOTOR OIL

REG. U. S. PAT. OFF.

Seals Power at every Degree of Wear

DISPLAY this sign outside your station—you tell your motoring world that you sell not just oil but *CORRECT LUBRICATION!* If you are an Authorized Opaline Dealer, you will ask a motorist to look at his speedometer and tell you how many miles his car has been driven, then you will consult the Sinclair Recommendation Index, and give him the right grade of Opaline to fit the degree of wear in his engine and seal its power!

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Also Makers of Sinclair Gasoline and H-C Gasoline
45 NASSAU STREET, NEW YORK
Atlanta Boston Chicago Houston Kansas City

Say you saw it in The OIL WEEKLY

	Feb. 1 1928
MARKHAM	
The Texas Company	
All grades	1.00
LULING	
All grades	1.00
PANHANDLE	
(Humble Oil & Refining Company and Magnolia Petroleum Company, Gulf Pipe Line Company and Kay County Gas Company)*	
Hutchinson, Carson and Wheeler counties, all grades	.75
*Gulf and Kay County do not post in Wheeler County.	
Gray County	
(Humble Oil & Refining Company)	
28 to 28.9 gravity	.80
29 to 29.9 gravity	.82
30 to 30.9 gravity	.84
31 to 31.9 gravity	.86
32 to 32.9 gravity	.88
33 to 33.9 gravity	.90
34 to 34.9 gravity	.92
35 to 35.9 gravity	.94
36 to 36.9 gravity	.96
37 to 37.9 gravity	.98
38 to 38.9 gravity	1.00
39 to 39.9 gravity	1.02
40 to 40.9 gravity	1.04
41 to 41.9 gravity	1.06
42 to 42.9 gravity	1.08
43 to 43.9 gravity	1.10
44 and above	1.12
(Humble Oil & Refining Company)	
Crane, Upton, Crockett and Pecos counties, all grades	.60
WEST TEXAS	
(Humble, Gulf, Magnolia, Kay County Gas Company and Southern Crude Oil Purchasing Company)*	
Crane, Crockett, Pecos, Upton and Winkler, Counties	.60
*Kay County Gas Company does not buy in Winkler and Pecos Counties, and Southern does not buy in Pecos or Crockett.	
(Magnolia Petroleum Company)	
Mitchell County	$ .93
Howard-Glasscock County (shallow)	.80
Howard-Glasscock County (deep)	.60
Col-Tex Refining Company	
Mitchell County	$ .93
WYOMING-MONTANA	
Wyoming	
Byron	1.33
Ferris	1.60
Elk Basin	1.33
Grass Creek	1.33
Rock Creek	1.25
Lost Soldier	.95
Lance Creek	1.33
Mule Creek	1.10
Notches	.65
Big Muddy	1.25
Osage	1.33
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.33
Lander	.80
Simpson Ridge	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00
Salt Creek	
Midwest Refining Company	
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 and above	1.30
MONTANA	
Sunburst	1.50
Cat Creek	1.33
Lake Basin	2.20
NEW MEXICO	
Artesia	1.00
Hogback	1.38

	Feb. 1 1928
CANADA	
Oil Springs	2.18
Petrolia	2.11
LOUISIANA-ARKANSAS	
(Standard of Louisiana, Louisiana Oil Refining Company, Gulf Refining Company of Louisiana and The Texas Co.) Homer, Haynesville, Caddo, El Dorado, De Soto and Chrichton.	
Below 28 gravity	1.10
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.32
39 to 39.9 gravity	1.34
40 to 40.9 gravity	1.36
41 to 41.9 gravity	1.38
42 to 42.9 gravity	1.40
43 to 43.9 gravity	1.42
44 to 44.9 gravity	1.44
45 to 45.9 gravity	1.46
46 to 46.9 gravity	1.48
47 to 47.9 gravity	1.50
48 to 48.9 gravity	1.52
49 to 49.9 gravity	1.54
50 to 50.9 gravity	1.56
51 to 51.9 gravity	1.58
52 and above	1.60

Atlantic Oil Producing Company posts this same schedule on Homer, Haynesville, and West El Dorado.

Magnolia Petroleum Company has the same posting on Pine Island, Haynesville, Eldorado and Bull Bayou.

	Feb. 1 1928
STEPHENS	
(All Companies)	
Below 28	1.00
28 to 28.9 gravity	1.04
29 to 29.9 gravity	1.04
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.08
32 and above	1.10
SMACKOVER	
(All Companies)	
Below 24 gravity	$ .85
24 and above	1.00
Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	.75
Cotton Valley	.85
Calion	.85

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

American Petroleum Institute Figures (Barrels of 42 gallons)

	January 21	January 14
AT ATLANTIC COAST PORTS—		
Baltimore	115,000	65,000
Boston	.....	134,000
New York	579,000	*670,000
Philadelphia	145,000	74,000
Others	250,000	63,000
Total	1,089,000	1,006,000
Daily average	155,572	143,714
AT GULF COAST PORTS—		
Galveston District	50,000	40,000
New Orleans and Baton Rouge	144,000	340,000
Port Arthur and Sabine District	.....	.....
Tampa	.....	.....
Total	194,000	380,000
Daily average	27,714	54,286
AT ALL UNITED STATES PORTS		
Total	1,283,000	1,386,000
Daily average	183,286	198,000
Daily average four weeks ended	193,071	221,893

RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

American Petroleum Institute Figures (Barrels of 42 gallons)

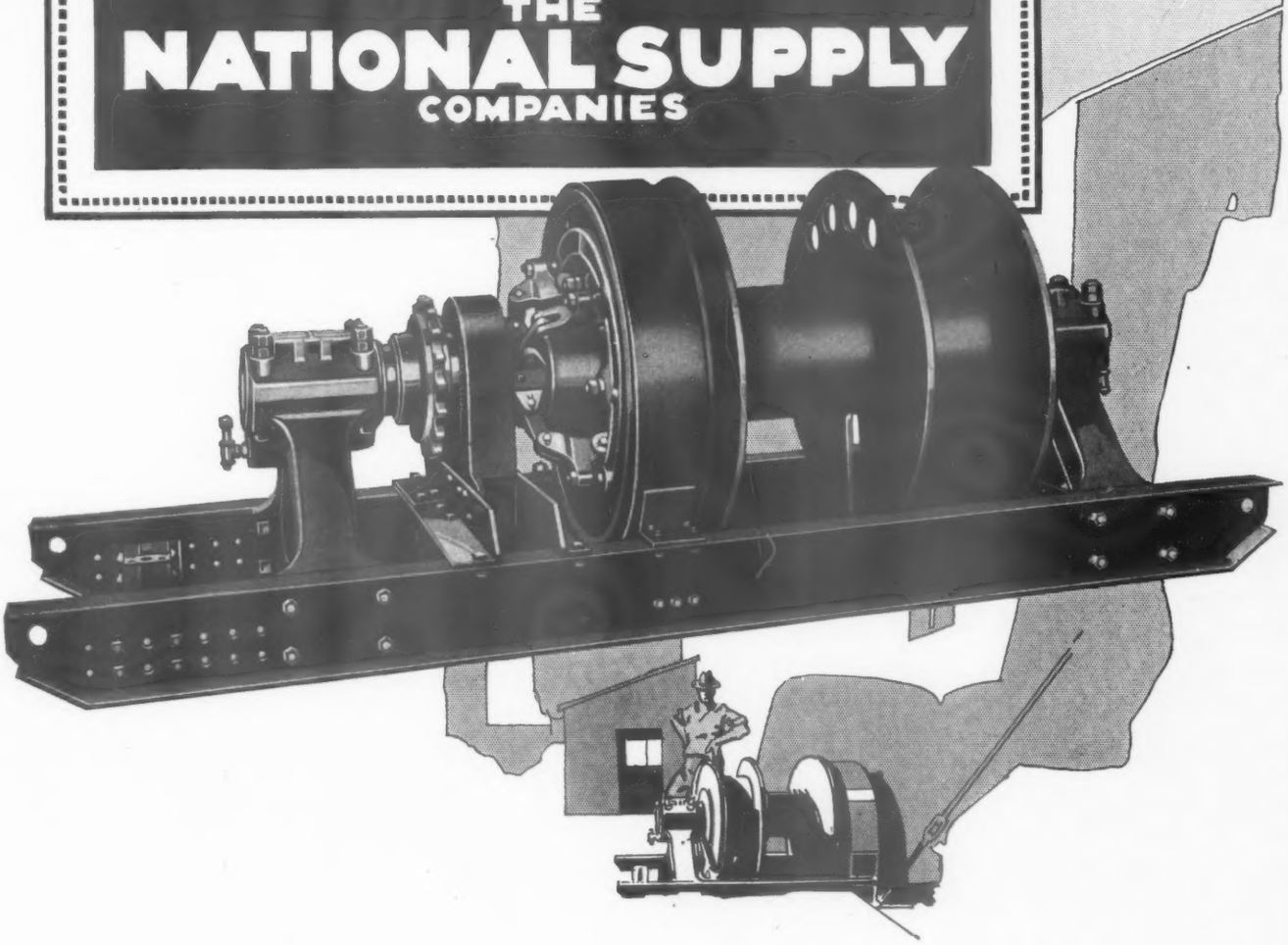
	January 21	January 14
AT ATLANTIC COAST PORTS—		
Baltimore	195,000	97,000
Boston	94,000	.....
New York	484,000	293,000
Philadelphia	.....	.....
Others	75,000	84,000
Total	848,000	474,000
Daily average	121,143	67,714
AT GULF COAST PORTS—		
Daily average	.....	.....
TOTAL—ATLANTIC AND GULF COAST PORTS	848,000	474,000
Daily average	121,143	64,714
Daily average four weeks ended	73,321	64,357
DISTRIBUTION OF TOTAL CALIFORNIA RECEIPTS IS AS FOLLOWS:		
Crude	333,000	148,000
Gasoline	196,000	174,000
Gas oil	244,000	.....
Kerosene distillate	75,000	84,000
Fuel oil	.....	68,000
Total	848,000	474,000

*Revised.

NATIONAL
CHAIN DRIVEN SAND REEL
TYPE "J"

DESCRIPTIVE BULLETIN No. — 18 N ON REQUEST

THE NATIONAL SUPPLY COMPANIES



Say you saw it in The OIL WEEKLY

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	7	7	2	2	1	1	4	4	440	65
California	17	15	14	13	..	..	3	2	5,605	8,550
Colorado	..	1	..	..	..	1	..	..	....	....
Illinois	3	2	..	1	..	..	3	1	....	10
Indiana	1	1	..	1	..	..	1	..	....	70
Kansas	19	33	4	11	..	3	15	19	335	2,045
Kentucky	11	2	6	2	..	..	5	..	430	7
Louisiana	11	14	3	4	2	4	6	6	320	1,885
Michigan	..	1	..	1	..	..	..	..	....	20
Montana	..	4	..	4	..	..	..	..	....	92
New York	..	8	..	8	..	..	..	..	....	17
Ohio	16	22	8	8	7	9	1	5	395	174
Oklahoma	54	65	14	29	12	14	28	22	6,650	8,416
Pennsylvania	19	55	17	51	2	..	..	4	34	135
Texas	121	125	67	73	10	15	44	37	81,532	104,461
West Virginia	38	13	8	6	17	5	13	2	69	111
Wyoming	..	6	..	5	..	1	..	..	....	317
TOTALS	317	374	143	219	51	53	123	102	95,810	126,375
Increase this week	..	..	..	..	..	..	21	..	....	....
Decrease this week	57	..	76	..	2	..	..	..	20,104	....

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: •—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
BECKAHM COUNTY—		
Skelly Oil Co., Poarch 1, ne nw ne, 28-9n-23w	¶40	2683
Rubana Oil Co., Ensley 1, c ne sw, 21-9n-23w	¶7	2707
CARTER COUNTY—		
Simpson & Fell, Crockett 1, se 22-1s-3w	145	2606
CLEVELAND COUNTY—		
Galt Brown, Alexander 1, c nw, 7-9-1w	*	4530
CREEK COUNTY—		
Indep. O. & G. Co., Wolfe 5, swc ne, 18-14-10e	635	3421
Kennedy & Horner et al, Strip 2, sec sw sw, 24-18-11e	10	1832
C. G. Tibbens, Friday 2, nec nw sw se, 31-15-9e	*	....
Continental Oil Co., Strip 1, swc nw nw, 25-18-11e	*	1959
Devonian Oil Co., Miller 6, c se ne, 14-19-8e	*	3179
GRADY COUNTY—		
Commercial Dev. Co., Woolridge 1, se sw nw, 13-4n-8w	¶40	2335
Little Nick Oil Co., McCaughtry 3, se nw nw, 35-5n-8w	¶45	2400
Okla. Nat. Gas Co., Glover 3, nw se ne, 27-5n-8w	¶15	2154
JEFFERSON COUNTY—		
Skelly Oil Co., Ryan 2, sw ne se, 23-6s-6w	140	2176
Ed Cox, Ryan 1, nec sw, 23-6s-6w	*	2400
KAY COUNTY—		
Fred Morgan, Curry 1, swc ne se sw, 19-28-13	¶1	1580
The Texas Corp., Woods 1, ne nw nw, 30-27-1w	*	3637
Wentz Oil Co., Country Club 3, nw sw sw, 20-27-1w	*	717
Comar Oil Co., Jennings 1, nwc se, 19-27-1w	*	3919
Ingram & Wilson, Benson 1, c sw sw, 32-28-1e	*	1065
Blackwell O. & G. Co., Athey 3, se ne se, 35-28-1w	*	1299
MUSKOGEE COUNTY—		
J. L. Haner et al, Stidham, nw sw sw, 9-15-18e	¶2	791
Indian Capitol Oil Co., C. Smith 1, nec nw se ne, 7-14-19e	*	820
E. A. Hutchinson, A. Cherry 1, swc ne nw, 27-14-16e	*	1700
E. Price, Russell 1A, nec se se se, 19-15-16e	*	1240
NOBLE COUNTY—		
Magnolia, Sams 1, nw sw se, 15-21-2w	*	2935
OKMULGEE COUNTY—		
A. G. Hazlett et al, Stevens 2, sec sw, 28-13-13e	¶6	1436
F. D. Misener, Colbert 2, cel ne sw, 14-14-14e	¶8	1682
W. B. Pine, Curns 1A, nw ne, 1-13-13e	*	2693
Transcontinental Oil Co., E. Deer 2, cwl ne sw, 9-15-13e	*	2702
OSAGE COUNTY—		
Kewanee O. & G. Co.,5, nw sw se, 34-27-6e	400	2807
PAWNEE COUNTY—		
Magnolia, Coats 4, nec se nw, 15-20-6e	25	3131
F. R. Billingslea & 101 Ranch Co., School Land 2, nw ne se, 16-21-6e	*	3501
PONTOTOC COUNTY—		
W. R. Ramsey, Webb 5, sw nw sw, 20-5n-8e	700	2526
Homa Okla. Oil Co., McCall 6, swc ne, 17-5n-8e	150	2879
Ada Cement Co., Potter 1, nwc, 25-4n-7e	*	1485
POTTAWATOMIE COUNTY—		
Twin State Oil Co., Spangy 5, nwc se, 19-7-4e	1200	3841
SEMINOLE COUNTY—		
Carter Oil Co., Jackson 1, ne nw-ne, 11-7-6	100	4193
Gypsy Oil Co., Pattey 3, nw ne ne, 35-8-6e	175	4707
Atlantic Oil Prod. Co., Grayson 4, se sw nw, 13-8-6	250	4574
Sinclair O. & G. Co., Cumsey 3, nw sw ne, 10-8-6	2700	4125
Amerada, Bradley 1, sec sw, 9-8-6	*	4368
Magnolia, Stephens 1, sw se nw, 36-9-6	*	4325
Larkin et al, Cluck 1, ne nw nw, 4-9-6	*	....
Sinclair Hollins 4, nec nw, 12-9-5	*	4415
Amerada, Roger 3, nw se se, 3-9-5	*	4315
Continental Oil Co., Kays 3, nw sw sw, 2-9-5	*	4259
STEPHENS COUNTY—		
Empire G. & F. Co., Cantrill 9, cel se se, 32-1s-8w	¶12	1944
Jeffreys et al, Ball 1, nwc ne, 1-1n-9w	¶1	1900
Smith & Law, Brymer 6, sw ne ne, 31-1n-8w	*	1450
TULSA COUNTY—		
Glidden Oil Corp., Jones 1, c ne ne, 15-19-11e	20	1817
Burke & Gibbs Oil Co., Scott 1, nwc ne ne, 17-16-14e	*	2068
WAGONER COUNTY—		
C. R. Cane et al, Cane 2, sec ne ne se, 35-17-17e	¶5	853
Peterson & Young, J. Adams 1, c se nw, 23-16-16e	*	1766
D. T. Marr et al, Adkins 1, swc nw se, 13-17-15e	*	1688

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
White Eagle O. & R. Co., Dixon 1, nec se sw, 1-27-6e	*	3105
Rosenthal et al, Leon Bank 1, swc ne, 3-27-6e	*	3164
Blankinship Pet. Co. et al, swc ne, 27-27-6e	*	3170
COFFEY COUNTY—		
Gasche et al, Flaherty 1, swc nw nw, 26-22-13e	*	....
COWLEY COUNTY—		
Kuex Drlg. Co., Matteson 1, lot 7, blk 44, City of Winfield, 22-32-4e	15	2350
Manning et al, Douthitt 1, nwc, 17-33-3e	*	3539
ELK COUNTY—		
Conley & Winemiller, Donnell 1, nwc sw nw, 12-30-9e	*	2290
ELLSWORTH COUNTY—		
Phil-Mac Oil Co., Gregory 1, c sw, 24-16-9w	*	4009
GREENWOOD COUNTY—		
Empire O. & R. Co., Schwab 6, nec se ne, 25-22-12e	150	1742
McCullouch Oil Co. et al, Roglin 1, nec sw sw, 10-25-13e	50	1470
White Eagle O. & R. Co., Greenwood 1, sec sw sw, 30-22-11e	*	2180
Welch 1, sec, 33-24-10e	*	2152
Empire O. & R. Co., Wasson 1, nec, 27-22-12e	*	1913
Smally & Bement Oil Corp., Rockhill 1, 12-25-10e	*	2032
McCullouch Oil Co., Lane 1, swc nw se, 10-25-13e	*	....
LYON COUNTY—		
Tulsa Oil Co., Vohs 1, nec nw, 17-21-12e	*	2009
MARION COUNTY—		
Harwood & Winters, McNichols 1, nwc ne se, 15-17-4e	*	2439
MONTGOMERY COUNTY—		
Wolf & Brown, Bunk 1, nwc ne, 30-33-17e	*	1337
RUSSELL COUNTY—		
Mid-West Ref. Co., Baxter 33, sec sw se, 32-13-15w	120	3110

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
HUNTINGTON BEACH—		
Crudoil Co., No. 3	200	3765
Duncan and Lee, H. T. 3	200	2110
KERN FRONT—		
George F. Getty, Grady 7	100	2100
H. L. 1	150	2155
General Pet. Corp., Sill 16	160	2235
Sill 31	140	2045
LONG BEACH—		
Pan-American Pet. Co., McKeon 2	1200	5215
Richfield Oil Co., Delaney Fee 5	1200	6217
RINCON—		
Chanslor-Canfield Midway Oil Co., Hobson C1	250	2625
Hobson C2	300	2605
ROUND MOUNTAIN—		
Shell Co., Elbe 6	75	1940
Jewett 1	80	1390
SEAL BEACH—		
Associated Oil Co., Hellman 2	1400	4695
VENTURA—		
Associated Oil Co., Lloyd 44	150	6390

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
OUACHITA COUNTY—		
Humble, Murphy 4, 3-16-15	¶5	2630
UNION COUNTY—		
Ohio Oil Co., Crain 5, 1-17-14	200	3056
Crain 7, 1-17-14	240	3033

More Power for Pumping

The Allis-Chalmers Texrope Driven, double reduction oil well pumping unit, including the motor, has an overall efficiency of 82% as determined by a prony brake test made by one of the large producers.

The Allis-Chalmers steel frame oil well motor is designed to give maximum efficiency. Timken bearings reduce the friction losses to a minimum.

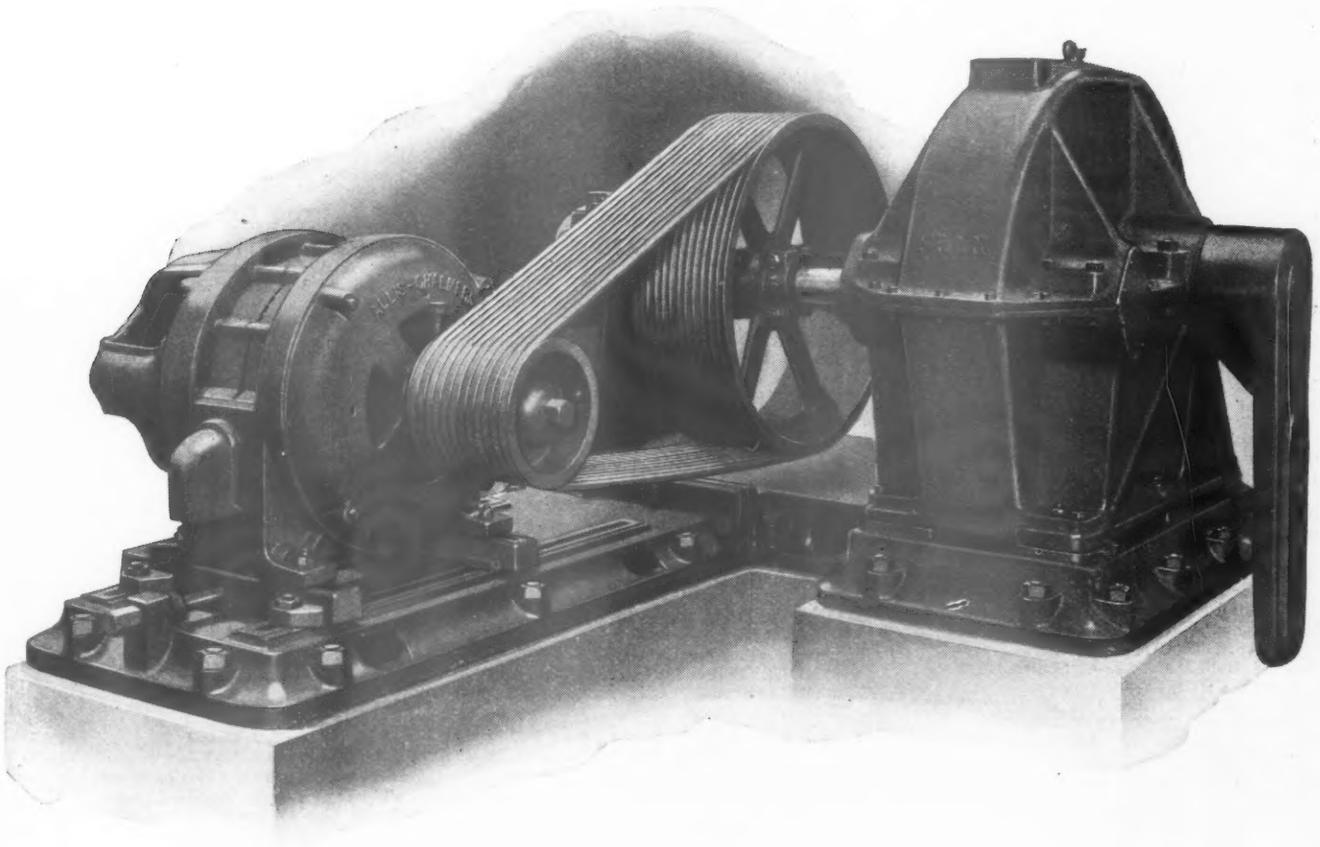
The Texrope Drive, which acts as the first reduction of the pumping unit, in addition to being highly efficient, acts as a shock absorbing medium and protects the motor from repeated stresses that may be transmitted from the crank.

The Falk Herringbone reducer, acting as the final reduction of the unit, transmits power and transforms speed with greater efficiency than any other similar type of mechanical device.

Oil Field Offices

DALLAS
HOUSTON
KANSAS CITY
NEW ORLEANS
DENVER
LOS ANGELES
SAN FRANCISCO
SAN ANTONIO
EL PASO

WESTERN SUPPLY COMPANY
TULSA, OKLAHOMA



ALLIS-CHALMERS MANUFACTURING CO.

MILWAUKEE, WISCONSIN.

Say you saw it in The OIL WEEKLY

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BRADFORD FIELD—		
South Penn Oil Co., lot 5, tr. 52	2	....
Rew & Hodge, 52	2	....
Blair, 61	2	....
Bingham 88, tr 17	2	....
N. M. W. Co. 55	2	....
Fee 59	2	....
Bingham 1	3	....
Howard Wile, Wile 1	2	....
Hazlewood Oil Co., Hazlewood 1	2	....
W. H. McDermott, McDermott 12	2	....
J. W. Bouton, Bouton 5	2	....
T. H. Kervin, Jr., Berry 8	2	....
Berry 9	2	....
T. H. Kennedy, lot 13, tr 1	2	....
J. S. Brown, Bell 1	2	....
A. J. Crisman, Franchot 1	2	....
W. T. Pipper & Co., Pipper 1	2	....
GREENE COUNTY—		
Mfrs. L. & H. Co., Barnett Wyley 3	¶¾	....
Himmelman 1	¶1	....

WEST VIRGINIA

BOONE COUNTY—		
Pure Oil Co., Williams Coal 234	15	....
Lafollett tr A, 30	*	....
Lafollett, tr B, 25	10	....
Federal Coal 28	*	....
Yawkey O. & G. Co., Proud Fork Coal 4	*	....
Hope Cons. & Ref. Co., Hill 1	¶1	....
GILMER COUNTY—		
James Tierney, Tierney 3	¶1¼	....
Chartiers O. Co., Baptist Missionary 3	¶1	....
Steer Run Oil Co., G. D. Hollohan 2	¶1½	....
Hope Const. & Ref. Co., Mamie Ball 1	15	....
Hope Nat. Gas Co., Mary A. Bowie 1	¶1¼	....
Harley Satterfield & Co., F. N. Gainer 1	5	....
MARION COUNTY—		
Hope Nat. Gas Co., James Eddy 1	¶¼	....
Willis Hays 1	*	3270
Laughlin & Moore, J. W. Tennent 1	¶2	....
Carnegie Nat. Gas Co., James Eddy 1	*	3083
Owens Bottle Mach. Co., Wm. Valentine 1	*	....
RITCHIE COUNTY—		
South Penn Oil Co., John Grubb 1	¶½	....
Imperial O. & G. Prod. Co., Mason 1	*	2562
Junior Oil Co., J. Hickman Hrs. 1	¶¼	....
L. N. Rinehart & Co., A. B. Wilson 1	*	....
LOGAN COUNTY—		
Wacatock Prod. Co., Dingess Coal 1	¶1	....
Dingess Coal 2	¶1	....
Dingess Coal 3	*	....
CALHOUN COUNTY—		
McIntosh & Co., J. & M. Buck 4	¶1¼	....
Hardman & Harshman, O. W. Groves 1	25	....
ROANE COUNTY—		
South Penn Oil Co., W. H. Coleman 1	*	....
Heck Oil Co., A. L. Tallman 4	10	....
WIRT COUNTY—		
W. C. Patterson, Vernon-Donhoe 32	*	....
Roberts Bros. Rathbone 157	2	....
LINCOLN COUNTY—		
G. T. Ray & Son, James Cooper 3	¶½	....
Mathias Showers 1	¶½	....
TYLER COUNTY—		
Hope Const. & Ref. Co., Ritter 2	2	....
PLEASANTS COUNTY—		
Howard Hall & Co., S. L. Shultz 1	¶¼	....
WOOD COUNTY—		
C. S. Reed, C. S. Reed 8	*	....
KANAWHA COUNTY—		
Means Gas Co., G. W. Whitaker 1	¶1½	....
CABELL COUNTY—		
Harshbarger O. & G. Co., Addison Conner 1	¶½	....
MARSHALL COUNTY—		
Mfrs. L. & H. Co., Yater 1	*	....

KENTUCKY

HENDERSON COUNTY—		
Lucien Drury, William Leaser 1	50	....
DAVIESS COUNTY—		
Lee Birk & Co., John Roby 1	5	....
Unknown Parties, Hedges 1	*	....
OHIO COUNTY—		
Creek Drlg. Co., Bartlett Hrs. 4	150	790
Earl Patton & Co., Renfrew 3	100	....
Daley, Lohman & Co., O. Ezell 3	100	747
Young, Goldberg & Co., J. C. Parks 1	25	644
Spence & Co., Wilbur King 1	*	....
Cy Johnson, Rufus King 1	*	....

Company, Well and Location	Initial Production Bbls.	Depth
Sunnydale O. & G. Co., Tice Baker 1	*	605
Wood Oil Co., A. S. Wright 1	*	702
SOUTHEASTERN OHIO		
WASHINGTON COUNTY—		
F. H. Ward & Co., Kerr 1	10	....
I. W. Atkinson, W. M. Atkinson 2	5	....
J. O. Herlon & Co., Isaac McKintick 1	2	....
Charles Huffman & Co., J. J. Wharff 1	2	....
COLUMBIANA COUNTY—		
Renner-Deibel O. & G. Co., A. Bennett 27	3	....
CENTRAL OHIO		
HOLMES COUNTY—		
Empire G. & F. Co., D. Nethrow 6	160	....
William Martin 2	*	....
Mill Creek O&G Co., Ed. Arnold 1	¶1¼	....
Kemrow Co., P. Mullett 1	¶½	....
PERRY COUNTY—		
Hope Const. & Ref. Co., Barnes 2	¶¼	....
West 3	78	....
Bloomingville O. & G. Co., Maxwell Hrs. 1	40	....
ATHENS COUNTY—		
Athens States O. & G. Co., State Land 9	¶½	....
Stroud Run O. & G. Co., G. H. Jurod 3	¶½	....
J. A. Ronshousen & Co., H. Hooper 1	¶¼	....
LICKING COUNTY—		
Hope Const. & Ref. Co., McKnight 1	2	....
Arkansas F. O. Co., E. C. Howell 4	40	....
CUYAHOGA COUNTY—		
J. B. Harrison & Co., Schuman 1	15	....
MEIGS COUNTY—		
Ohio Fuel Sup. Co., Mary Davis 1	10	....
NORTHWESTERN OHIO		
ALLEN COUNTY—		
W. W. Bolz, N. E. Leedy 1	50	1364
LUCAS COUNTY—		
Waterville G. & O. Co., U. G. Denman 3	¶¼	1209
INDIANA		
SPENCER COUNTY—		
Premium Oil Co., D. Hoover 2	*	1287
ILLINOIS		
WABASH COUNTY—		
Arkansas Fuel O. Co., O. A. Price 1	*	....
C. A. Canary 1	*	....
CRAWFORD COUNTY—		
Frog Pond Oil Co., A. H. Apple 1	*	....

LOUISIANA

CADDO PARISH—		
Dixie Oil Co., Clark 9, 14-21-15	160	3956
Standard, Hart 16, 34-21-16	80	1839
The Texas Co., Herold 10, 14-21-15	80	3925
RICHLAND PARISH—		
Moody & Seagrave, Hemler B-2, 6-15-6e	¶54	2495
WEBSTER PARISH—		
Magnolia, Roseberry 1, 29-23-9	¶31	2725

TEXAS

TEXAS GULF COAST

BIG CREEK—		
Gulf, Davis 34	400	3000
BLUE RIDGE—		
Navarro Oil Co., Robinson A-4	1258	3500
GOOSE CREEK—		
Port City Oil Co., Grace Addey 1	80	2090
HIGH ISLAND—		
McLean Oil Co., Cade 10	*	4350
HULL—		
Republic Prod. Co., Dolbear 23	100	2550
SPINDLE TOP—		
Gulf, McLean A-17	3200	5025
ORANGE—		
Gulf, Hager & Moore 7	124	3350
EAST TEXAS		
HARRISON COUNTY—		
State Line O. & G. Co., Abney 3, W. R. Anderson sur,	¶2	962
PANOLA COUNTY—		
Bethany O. & G. Co., Burns 4, A. Birdsong sur	¶4	1015
SOUTHWEST TEXAS		
DUVAL COUNTY—		
Houston Oil Co., Hale subdiv. Arispe grant	¶40	1575
JIM HOGG COUNTY—		
Magnolia, Merchant State Bank	30	1253
SAN PATRICIO COUNTY—		
Perry, LaPrelle & Reed, State Land between White Point and Saxet	¶	2565
NORTH TEXAS		
ARCHER COUNTY—		
Burleson & Chenault, Young 1	*	1600

Company, Well and Location	Initial Production Bbls.	Depth
Carey & Rhader, Farmer 4	35	1505
Holcomb & Jones, Hawley 1	20	760
Hawley 2	15	761
K. & K. 1	10	768
C. B. Long et al, Hamilton 1	*	1402
McGregor & Panhandle Ref. Co., Farmer 4	35	1509
F. P. Rose et al, Perkins 1	*	1705
Stidham-Thrasher et al, Medlin 1	*	2505
Wilson et al, Farmer 4	40	1535
BURKBURNETT—		
W. J. Moran et al, Warren 14	20	1422
COOKE COUNTY—		
W. J. Green et al, Campbell 1	*	1662
Right of Way Oil Co., MK&T Fee 2	10	1077
ELECTRA—		
The Texas Co., Waggoner 343	*	2251
JACK COUNTY—		
Harper & Buzzard, Snedker 1	*	850
Webb & Jordan, Welch 1	*	802
K-M-A & IOWA PARK—		
Pink Hammond et al, Ferguson 2	*	465
Holbrook & Wood, K. & K. 1	5	708
K. & K. 2	15	775
K. & K. 3	*	870
K. & K. 4	20	785
K. & K. 5	40	785
K. & K. 6	20	787
K. & K. 7	15	780
K. & K. 8	15	793
K. & K. 9	10	785
K. & K. 10	15	785
K. & K. 11	30	775
K. & K. 12	50	783
K. & K. 13	50	786
K. & K. 14	*	865
K. & K. 15	*	805
MONTAGUE COUNTY—		
Carter & Rycade Oil Corp., Cunningham 3	95	935
Pure Oil Co., Loy 3	30	825
WILBARGER COUNTY—		
Fain-McGaha et al, Waggoner 1-N	*	2701
Phillips Pet. Co., Waggoner 10-T	110	2390
Prairie O&G Co., Waggoner 7-A	65	2390
YOUNG COUNTY—		
Atkinson & Sandefer, Donnell 2	*	2295
Kleiner et al, Langston 1	40	595
Lindsley & Bollin, Graham 1	15	2231
Mann & Forbes, Martin 1	*	2420
McCoy et al, Bower 1	*	2268
Nesh & Windfohr, Ware 2	15	2191
Pitzer & West, Hinson 3	15	2231
Morrison 3-B	*	2400
Ridgeway et al, Waters 1	*	999
E. C. Stovall et al, Fee 8	40	4340

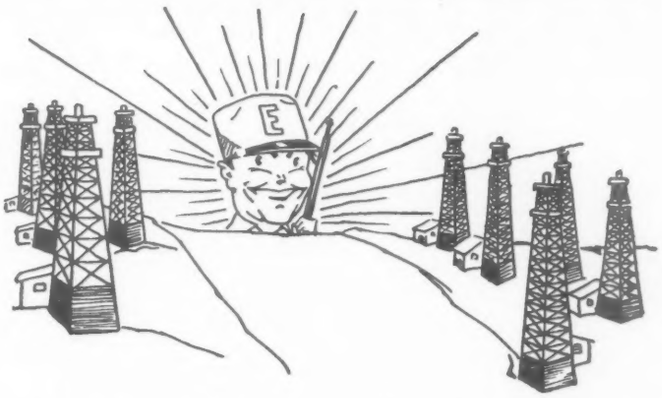
TEXAS PANHANDLE

GRAY COUNTY—		
Danciger O&R Co. et al, Jackson 5	1000	3011
Jackson 6	3200	3045
HUTCHINSON COUNTY—		
El Rio Oil Co., Cockrell 1	15	3122
Gray-Thompson Oil Co., Weatherly	25	3053

CENTRAL WEST TEXAS

BROWN COUNTY—		
Christie et al, Kellar 1	*	1138
Kone Prod. Co., Hickman 9	*	1295
Natural Gas & Fuel Co., Ray 1	¶½	1520
Capps 1	¶½	1884
Mel Richards et al, Curry 1	225	1120
Scrivenor et al, Trueheart 2	10	1150
Dr. Lloyd et al, Collier 1	5	457
CALLAHAN COUNTY—		
Bradstreet et al, Waller 4	125	1716
Gifford et al, Hatchett 1	*	908
Goodloe & Duffy, Alvord 2	¶9	1016
COLEMAN COUNTY—		
Anzac & Continental Oil Co., Overall 1-D	*	3235
Coleman Gas Co. et al, Schirmacher 1	¶1	2209
Shoup Jr. et al, Chambers 1	*	1683
EASTLAND COUNTY—		
John W. Hooser, Fox 7	110	1631
McGee et al, Langston 2	¶2	1305
Moody Corp. et al, Dyer 2	*	3889
States Oil Corp., Calvert-Connellee 7	10	1692
SHACKELFORD COUNTY—		
Hughes et al, Hill 1	*	1056
Kingwood Oil Co., Gorsuch 1	10	1512
Roeser-Pendleton & Marland Oil Co., Cook 38-A (Sec. 60)	175	1353
Cook 43-A	250	1289
Cook 51-A	240	1210

(Continued on page 96)



Now it's Coming East!..

The Oil Well Pump that took California by storm

THE EPCO PUMP, soon to appear, will be new to fields east of California but proved in California fields by eighteen months of wide use and over two years of rough testing.

▼ ▼ ▼ ▼

Rarely will you find such consistently tough pumping conditions as in California .... great depths ..... terrific rod strains .... heavy and light oils ..... many wet wells ... nearly all more or less sandy .... great volume .... and heavy strains on pumping equipment generally.

▼ ▼ ▼ ▼

Yet, the EPCO PUMP has stood these acid tests so successfully that it is today recognized as the outstanding achievement in pump-engineering. It has caused hundreds upon hundreds of California producers to discard ordinary pumps and adopt EPCO! THERE MUST BE REASONS.

▼ ▼ ▼ ▼

HERE ARE SOME OF THE REASONS

OUR RECORDS SHOW—

1. Tubing-jobs have been practically eliminated.
1. Rod-partings have been cut down enormously.
3. The maximum production is consistently obtained.
4. Fuel and labor bills are cut down.
5. The wells are "on production" more hours per month.

▼ ▼ ▼ ▼

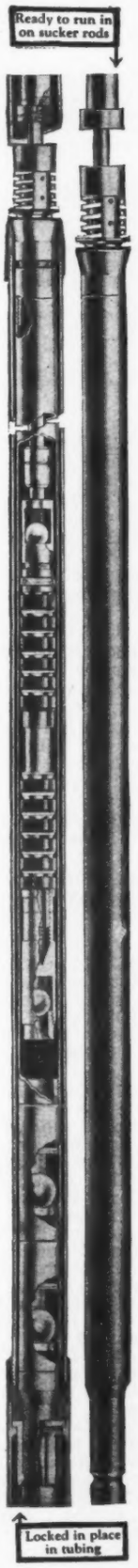
WATCH FOR THE EPCO PUMP ..... it will soon be here ..... and the NATIONAL SUPPLY COMPANY will sell it! In the meantime write for more details.

▼ ▼ ▼ ▼

The Economy Pump & Oil Tool Co.

4424 East 49th Street Los Angeles, California

THE ECONOMY
EPCO PUMP
PUMP & OIL TOOL CO



PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending Jan. 28	Previous week	Total this month	Total this year	This week last year	This month 1927	Total same date 1927	Year total 1927
Arkansas	2	2	11	11	7	32	32	329
California	26	22	88	88	24	102	102	1,226
Louisiana	8	16	50	50	11	68	68	812
Kansas	35	26	86	86	30	117	117	972
Oklahoma	67	44	199	199	94	478	478	3,703
Texas	113	137	422	422	269	908	908	8,665
Mountain States	..	..	..	..	7	40	40	494
Totals	251	247	856	856	442	1,745	1,745	16,149

LOUISIANA

BIENVILLE PARISH — S. P. Borden, Shreveport, L & A Oil Co. 2, 1-15n-8w, 200 ft e and 300 ft n of sw c nw.

CALCASIEU PARISH—Gilmer O. & G. Co., Gilmer, Fairchild Oil Co. 1, 28-9s-11w, 190 ft n and 25 ft w of se c nw nw.

CAMERON PARISH — Calcasieu Oil Co., Inc., Magnolia Pet. Co., & Union Sulphur Co., Houston, Watkins 2, 24-12s-10w, 1245 ft s and 2648 ft e of nw c.

MOREHOUSE PARISH — Elbert Pet. Co., Monroe, Morehouse Pltg. Co. 1, 40-19n-7e, 700 ft n and 650 ft e of sw c.

OUACHITA PARISH—Natural G. & F. Corp., El Dorado, Ark., McEnery 1, 21-19n-4e, 660 ft n and 1400 ft e of sw c. Ouachita Natl. Gas Co., Monroe, Smith 8, 37-20n-4e, 370 ft n and 198 ft e of s c sec 37.

RICHLAND PARISH—Moody & Seagraves, Houston, Cartor C-1, 17-16n-6e, 596 ft s and 416 ft w of ne c.

WEBSTER PARISH—Magnolia, Pet. Co., Shreveport, Viola Mitchell 1, 31-23n-9w, 660 ft s and 660 ft w of ne c.

ARKANSAS

OUACHITA COUNTY—Little Fay Oil Co., Robertson 4, 25-15-16, 300 ft n and 210 ft e of sw c sw nw.

UNION COUNTY — W. R. Keever, Kavanaugh 1, 12-17-15, 200 ft n and 200 ft e of center.

OKLAHOMA

CARTER COUNTY——Humble, Gillespie 2, se c nw 33-1s-3w. Magnolia, Anderson 2, ne nw nw, 23-1s-3w. Wirt Franklin, Brittain 3, sw se, 12-1s-3w; Drake 1, nw c sw, 7-1s-3w.

CREEK COUNTY — Mid-Continent Pet. Corp., Harjo 1A, sw c ne ne, 18-14-10e. Shaffer O. & R. Co. & Billingslea, Knight 1, ne c 16-15-8e. Pennock Oil Co. et al, Fulsom 14, sw c ne, 5-16-11e. Magnolia, Cornelius 1, sw c, ne ne 3-16-7e. Tidal Oil Co., Dickson 6, sw c nw, 19-17-10e. Kennedy & Horner et al, Tiger 2, c ne nw, 25-18-11e. Dixie Oil Co., Tahkaney 2, sw se se, 7-19-9e.

GRADY COUNTY — Carter Oil Co., Carter-Kerans 5, nw c ne se, 21-3n-5w, Costello 2, se c, 21-3n-5w; Wolford 10, nw sw sw, 16-3n-5w; Wolford 9, se nw sw, 16-3n-5w; Dryden 5, c w l e lb ne sw, 2-4n-8w. Magnolia, Smith 6, sw nw ne, 35-5n-8w. Hall & Briscoe, Hill 1A, se c nw sw sw, 25-5n-8w. Magnolia, Farwell-Skervin 7, nw se se, 23-5n-8w. Okla. Gas Utilities Co., Farwell 8, sw nw ne, 26-5n-9w. Caddo Oil Co., Cutshall 2, ne c sw, 5-5n-9w.

HUGHES COUNTY—T. B. Slick, Harris 1, sw se ne, 8-5n-8e.

JEFFERSON COUNTY — Magnolia, Spring 3, nw c, 26-6e-6w.

KAY COUNTY—Fred Morgan, Elder 1, nw c sw, 29-28-1e. Greer & Walters, Skein 2, c nw sw, 19-29-1e. Chas. Balph et al, Pantenburg 1, se c nw, 18-29-1w.

MUSKOGEE COUNTY — Towner & Wittee, Crittenden 4, sw c se sw, ne, 6-14-19e. J. A. Swindler, Thompson 2, ne c, 17-15-15e. Geo. McClain et al, Monday 2, c ne ne, 33-13-14e.

OKMULGEE COUNTY—Roxaline Oil Co., Morris 5, c w l se nw 21-14-14e. Riney & Williams, E. Love 3, ne c se sw, 9-14-14e. Indep. O. & G. Co., Tucker 1, sw c se nw, 9-15-14e. Carr Peterson, E. Ware 5, nw c sw, 9-15-14e. T. A. Johnston & Co., Skelton 3, c e l sw ne, 2-13-12e. Penrod & Thompson, Lowe 1, sw c nw, 12-14-12e. E. P. Jones, Lowe 1, nw c se nw, 12-14-12e. G. D. Roberts, Lee 6, nw c se ne, 22-15-11e. Mid-Continent Pet. Corp., Willis 2, ne c nw, 22-16-12e.

OSAGE COUNTY — Sand Springs Home 8, ne c nw nw ne, 5-20-11e. Tidal Oil Co. 2, sw se se, 28-21-10e. Mid-Kansas O. & G. Co. & Devonian Oil Co. 1, sw c se nw, 27-21-10e. A. D. McDonnell 2, ne se sw, 6-21-9e. Peters Pet. Co. 2, ne c sw, 32-24-9e. Carter Oil Co. 7, nw c se, 3-26-6e. Kewanee O. & G. Co. 10, se ne ne, 3-26-6e.

PAWNEE COUNTY — Markham & Schoenfelt, McClure 2, ne c se sw ne, 9-20-9e.

PAYNE COUNTY—Magnolia, Walker 2 "B", sw c ne sw, 8-19-5e.

PITTSBURG COUNTY — Quinton Spelter Co., Yoho 1, ne c, 21-7-17e.

PONTOTOC COUNTY—J. C. Crosby & Hicks, Nowbaby 1, se ne, 8-4n-7e. Homa Okla. Oil Co., Berry 2, ne c se, 19-5n-8e.

POTTAWATOMIE COUNTY—Continental Oil Co., Neghnguit 3, ne se nw, 19-7n-4e.

SEMINOLE COUNTY — Magnolia, Cruse 4, ne se se, 2-7-6; Rhoades 6, nw c sw, 12-8-6. I. T. I. O. Co., Williams 1, sw c nw, 12-8-6. Gypsy Oil Co., Jones 2, se c ne, 11-8-6. Skelly Oil Co. & Atlantic Oil Prod. Co., Sherry 1, sw nw sw, 6-9-6.

STEPHENS COUNTY — Murphy Oil Co., Fobb 11 "B", nw c ne sw, 12-2s-8w. Medlin et al, Burke 1, nw c ne, 34-1s-8w. David Malernee, Burke 4, c se ne, 34-1s-8w. Beaver Oil Co., Funk 1, sw c nw ne nw, 30-1n-8w. Brannon & Fisher, Maxey 1, se c, 19-1n-8w. Magnolia, Morton 1, se ne ne, 23-1s-4w. Wirt Franklin Pet. Corp. et al, Bell 1, nw c ne, 24-1s-4w.

TULSA COUNTY—Crider et al, Johnston 2, c e l se sw, 15-16-12e. Superior Oil Corp., McKee 8, nw c sw sw, 6-19-10e.

WAGONER COUNTY—C. R. Cane et al, Williams 1, c s l, ne, 35-17-17e. Peterson & Young, Marshall 1, c e l w½ w½ se, 23-16-16e.

KANSAS

BUTLER COUNTY—Empire O. & R. Co., Hederman 1, se c, 13-28-5e; Semich 1 "B", nw c se nw, 4-28-7e.

CHAUTAUQUA COUNTY — Manhattan Oil Co., Payne 1, se c nw nw, 33-32-9e.

COFFEY COUNTY—McCullouch Oil Co., Eppinger 1, c w l se nw, 23-22-13e.

COWLEY COUNTY — Durham & Work, Stout 1, nw c se, 19-31-3e. Roth & Faurot, Smith "A" 1, se c, 32-33-4e; Richardson 1, c sw sw, 12-33-5e. Engram & Wilson, Vickery 1, c sw se, 7-35-3e.

GREENWOOD COUNTY—Theta Oil Co., Fankhouser 1 "B", ne c se sw, 23-22-12e. Empire O. & R. Co., Ott 7 "A", sw c nw nw, 25-22-12e. Schwab 10, nw c se ne, 25-22-12e. Darby Pet. Co., Schwab 6, sw c nw, 30-22-13e. Simmons & Rhodes, Schwab 1, sw c ne se, 30-22-13e.

MARION COUNTY — Garden et al, Terry 1, se c ne, 3-17-4e. Phillips Pet. Co., Frank 1, ne c sw se se, 15-17-4e. Washabaugh et al, Hughes 1, ne c se se se, 15-17-4e. Harwood & Winters, Mowrer 1, nw c se se se, 15-17-4e. Indep. O. & G. Co., Bevans 1, nw c ne se se, 21-17-4e. Sinclair O. & G. Co., Bevans 2, se c ne se, 21-17-4e. Lariaux et al, Barnes 1, se c ne ne, 22-17-4e. Philips Pet. Co., McCoy 1, sw c se ne ne, 22-17-4e; Rezineck 2, sw c nw sw, 22-17-4e; Rezineck 3, se c nw sw sw, 22-17-4e. Ward et al, Layton 1, nw c se ne ne, 22-17-4e. Lariaux et al, Cemetary 1, ne c se nw nw, 23-17-4e. Phillips Pet. Co., Peterson 2, ne c sw nw, 23-17-4e; Peterson 3, nw c sw nw, 23-17-4e.

RUSSELL COUNTY—Mid-West Ref. Co., Mermis 4, nw c ne, 5-14-15w.

SEWARD COUNTY—Wilson & Moore, Bowles 3, ne c, 3-35-34w.

SUMNER COUNTY — Roxana Pet. Corp., River Bed 5, sw c nw se ne, 25-31-2e; Emerich 9, ne c nw se, 14-32-2e; Emerich 10, nw c sw sw se, 14-32-2e. Wasson et al, Gassoway 5, ne c se se sw, 14-32-2e. Boxer et al, Herrick 5, c n l s½ ne ne, 15-35-2e.

CALIFORNIA

HUNTINGTON BEACH — Calif. Pet. Corp., Buck 5, 28-5-11.

KERN COUNTY—Southern Calif. Gas Co., 4-1, 4-28-23. Dohney-Stone Drlg. Co., Kerwin 1, 21-26-22. Milham Explo. Co., Kern 3, 8-28-23. Shell's Corral Canyon 1, 16-26-28.

KERN FRONT—George F. Getty, Inc., McDougall 3, 26-28-27. Pet. Securities Co., No. 11, 22-28-27. Associated Oil Co., No. 2, 23-28-27; No. 3, 23-28-27; No. 4, 23-28-27. Brownmoor Oil Co., Cauley 2, 16-28-27.

LONG BEACH — Calif. Pet. Corp., Davidson 9, 19-4-12. Dabney-Johnston Oil Corp., No. 7, 30-4-12. J. E. O'Donnell, O'Donnell 66, 29-4-12. Fred Fitch, Sievers 1, 29-4-12. Richfield Oil Co., Augustine 2, 19-4-12. General Pet. Corp., K. & H. 9, 19-4-12. Ideal Oil Co., No. 1, 19-4-12. Marine Corp., No. 61, 29-4-12.

McKITTRICK—Keefe-Morrison, Inc., No. 8, 8-30-22.

MT. POSO—Signal Gasoline Co., Inc., No 1, 27-27-8.

MIDWAY—North American Consolidated Oil Co., No. 7, 32-31-24.

RINCON—Pan American Pet. Co., McGrath 1, 35-2-22.

SOUTH MOUNTAIN—Emma F. Exline, No. 1, 33-3-21.

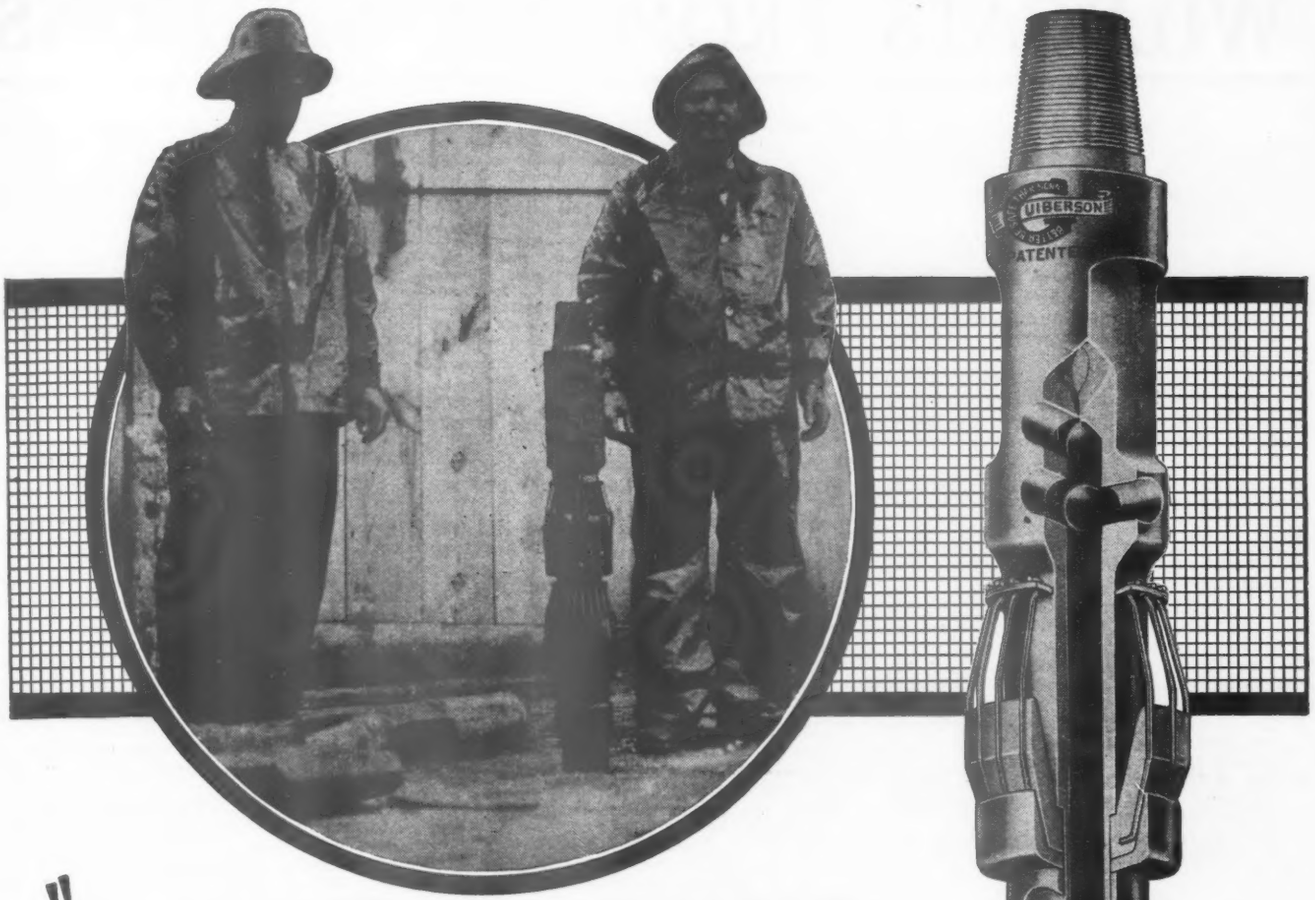
VENTURA COUNTY—Shell Co., McGrath 1, 35-2-22.

TEXAS

ARCHER COUNTY—Jones & Holcombe, Wichita Falls, Kemp & Kell 2, blk 81, Holiday sur, 150 ft from s and e lines. Humble, Wichita Falls, Wilson H 1, S 107, Amer. Trib. sur, 150 ft from n and e lines. Western Oil Sales Corp. & Crenshaw, Wichita Falls, Prideaux 11, A. McMullen sur, 115 ft s of center of n line.

BROWN COUNTY—Cranfill & Reyn-

(Continued on pege 94)



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WILDCATS FROM ALL SECTIONS

OKLAHOMA

T 28n, R 3w, Grant County—Sec 6, Otstot Dev. Co.'s Snyder 1, nec, sd 4518 ft.

T 27n, R 21w, Harper County—Sec 24, A. F Koplan Oil Co.'s Selman 1, nec se, spd and sd.

T 27n, R 15w, Woods County—Sec 20, Sooner State Oil Co. & E. R. Black's Marcum 1, c sw, spd and sd.

T 27n, R 5w, Grant County—Sec 18, J. W. Bailey et al's Custard 1, c se, sd 4605 ft.

T 27n, R 1e, Kay County—Sec 8, Mathews et al's Buessing 1, nwc, cellar.

T 27n, R 1e, Kay County—Sec 28, Hazel, Atlas Glass Co.'s Vickery 2, nwc se se nw, lcn.

T 26n, R 4w, Grant County — Sec 34, Sooner State Oil Co.'s Royce 1, swc nw, sd 550 ft.

T 26n, R 2e, Kay County—Sec 32, J. A. Vincent et al's McNeal 1, swc ne, fsh 2795 ft.

T 25n, R 22w, Harper County—Sec 14, Hoffer Oil Co.'s Cooper 1, nwc se, sd 4182 ft.

T 25n, R 4w, Grant County — Sec 22, Cowden et al's Vallner 2, nec se ne sw, fsh bit 5640 ft.

T 25n, R 1w, Kay County—Sec 15, Tonkawa Dev. Co.'s McDaniels 1, sec, 11 at 3980-88 ft, 200 ft oih, ur 5-in ft, sd.

T 25n, R 1e, Kay County—Sec 10, Miller Brothers' Anderson 1, nwc se, hfw 2565-90 ft, fsh 3942 ft.

T 21n, R 1w, Noble County—Sec 7, R. L. Corley's Williams 1, sec ne sw, sd 1920 ft.

OKLAHOMA PANHANDLE

T 6n, R 2e, Cimarron County—Sec 24, J. G. Phillips' School Land 1, nwc, dr 4018 ft.

T 5n, R 2e, Cimmaron County—Sec 22, Sinclair O&G's School Land 1, nwc, dr 4610 ft.

T 5n, R 5e, Cimarron County—Sec 27, Ramsey Brothers' State 1, c nw ne, top 4265 ft, show 35 bbl, shot 30 qt 4090-4140 ft, td 4552 ft, pb and sd.

T 5n, R 6e, Cimarron County—Sec 4, Ramsey Pet. Co.'s School Land 1, sec, sd 4265 ft.

T 4n, R 1e, Cimarron County—Sec 34, Ramsey D1, School Land sur, c se, fsh bit 3040 ft.

T 4n, R 25e, Beaver County—Sec 22, O. H. Bonner et al's Maple 1, c se ne, rig.

T 2n, R 9e, Cimarron County—Sec 2, Fenton, Brookins & Flowers' Smaltz 1, swc ne ne, spd and sd.

T 2n, R 18e, Texas County—Sec 23, Connelly, Trammell & Danner's Graves 1, nec sw sw, sd 315 ft.

T 1n, R 15e, Texas County—Sec 26, Hydraulic Oil Co.'s Hitch 1, nec, sd 600 ft.

T 1n, R 19e, Texas County — Sec 11, Trammell, Connelly & Danner's Tansey 1, sec nw, sd 280 ft.

T 1n, R 18e, Texas County — Sec 11, Three Way Oil Co.'s Price 1, sec nw, show gas 2560-2620 ft, sd 3005 ft.

T 24n, R 17w, Woodward County—Sec 32, Otstot Dev. Co.'s Simmons 1, sec, sd 1500 ft.

T 24n, R 6w, Garfield County—Sec 9, Pulse & Beamer's White 1, sec nw, sd 4720 ft.

T 24n, R 3w, Garfield County—Sec 14, Sagar Oil Co.'s Garsarch 1, sec, sr 6-in at 4960 ft.

T 22n, R 5w, Garfield County—Sec 3, Ashby & Barr's Swinery 1, nwc, sd 740 ft.

T 21n, R 25w, Ellis County—Sec 9, Okla Northern Oil Co.'s 1, c se nw, csg stuck 300 ft.

T 21n, R 21w, Woodward County—Sec 25, Sharon et al's Elmore 1, swc, sd 2778 ft.

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas-casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—s detracking; sp—spudding; sr straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

T 21n, R 4w, Garfield County—Sec 12, Beopple et al's Schriver 1, cel sw sw ne, sd 1850 ft.

T 20n, R 4w, Garfield County—Sec 9, Marland Oil Co.'s Looman 1, nec se, dr 5718 ft.

T 20n, R 4w, Garfield County—Sec 12, Marland Oil Co.'s Miller 1, swc, sd 4586 ft.

T 19n, R 4w, Logan County — Sec 8, Champlin Ref. Co.'s Musgrove 1, sec sw, dr 4554 ft. Sec 33, Bryan & Emery's 1, nwc se, sd.

T 18n, R 15w, Dewey County—Sec 9, Huckelby & McCoy's Perfect 1, nec se, 3274 ft.

T 18n, R 4w, Logan County — Sec 11, Welch, Acton & Brown's Hall 1, nec se, dr 5411 ft.

T 18n, R 3w, Logan County — Sec 33, Haley & Pioneer Pet. Co.'s Quier 1, swc se, dr by csg 3690 ft.

T 17n, R 1e, Logan County—Sec 20, T. B. Slick's Signs 1, nwc sw, sd 5067 ft.

T 17n, R 1e, Logan County—Sec 28, T. B. Slick's Berry 1, swc se, sand 4658-61 ft, 2800 ft oih, show wtr, ur 5-in 5330 ft.

T 16n, R 7w, Kingfisher County—Sec 6, Pet. Eng. Core Drlg. Co.'s Campbell 1, c nw se, rig.

T 16n, R 5w, Kingfisher County—Sec 26, Galt Brown Oil Co.'s Johnson 1, c nw, fsh bit 4300 ft.

T 16n, R 1w, Logan County — Sec 28, Blackford O&G Co.'s Lair 1, csl n½ se, sd 1675 ft.

T 15n, R 1w, Logan County—Sec 12, Bu Vi Bar Pet. Co.'s Kirkpatrick 1, c sw, dr 4500 ft.

T 14n, R 6w, Canadian County—Sec 9, A. D. Spears' Piatt 1, sec ne, sd 3223 ft.

T 13n, R 10w, Oklahoma County—Sec 18, Carrell Oil Corp.'s North 1, nec, sd 1500 ft.

T 13n, R 3w, Oklahoma County—Sec 18, Slick & Bailey's Lufkin 1, c ne se, td 3750 ft, r u s t.

T 12n, R 3w, Oklahoma County—Sec 15, Cromwell O&G Co.'s Thompson 1, swc ne ne, cemt 6-in 6820 ft.

T 10n, R 6w, Canadian County—Sec 1, J. V. Bailey's Robinson 1, c ne nw, sp and sd.

T 26n, R 8e, Osage County—Sec 13, Stephenson, Henry & Rock's 1, swc nw sw, rig.

T 25n, R 7e, Osage County—Sec 8, I. T. I. O. Co.'s 1, sec ne, dr 925 ft.

T 23n, R 10e, Osage County — Sec 7, Sheeders O&G Co.'s 1, c se, fsh tools 2340 ft.

T 21n, R 6e, Pawnee County—Sec 16, F. R. Billingslea & 101 Ranch Oil Co.'s School Land 2, nwc ne se, d and a 3501 ft.

T 18n, R 3e, Payne County—Sec 32, Garber, Pulse & Gloyd's Widows 1, nec se nw, sd 1200 ft.

T 17n, R 3e, Lincoln County—Sec 20, Willis O&G Co.'s Gunn 1, nwc se, td 4677 ft, water, sd.

T 14n, R 7e, Creek County—Sec 16, Bu Vi Bar Pet. Co.'s Nero 1, c se ne, cemt 5-in 1557 ft.

T 13n, R 4e, Lincoln County—Sec 16, Bu Vi Bar Pet. Co.'s School Land 1, c se ne, sd 4500 ft.

T 12n, R 8e, Okfuskee County—Sec 34, Transcontinental Oil Co.'s Knight 1, nwc ne nw, dr 4400 ft.

T 19n, R 10e, Tulsa County — Sec 24, Holmes et al's Ragen 1, nwc ne se, dr 2431 ft.

T 17n, R 13e, Tulsa County—Sec 1, E. A. Hawley's Taylro 1, sec ne, spd and sd.

T 15n, R 9e, Creek County—Sec 33, C. G. Tibbens' Marshall 1, swc se sw, mach.

T 14n, R 9e, Creek County—Sec 1, L. C. Wheeler & King's Morton 1, sec nw lcn.

T 13n, R 9e, Okfusgee County—Sec 21, Barnsdall Oil Corp.'s Self 1, swc se ne, sd 3274 ft.

T 12n, R 10e, Okfusgee County—Sec 8, Blakely et al's Yarhola 1, swc se nw, sd 3157 ft.

T 11n, R 10e, Okfusgee County—Sec 4, Moose & Daniels' Stidham 1, swc nw, sd 622 ft.

T 15n, R 18e, Muskogee County—Sec 12, C. F. Finefield's Jobe 1, nwc se, sd 1252 ft.

T 13n, R 17e, Muskogee County—Sec 34, Elk Drlg. Co.'s McKee 1, csl se se se, sd 160 ft.

T 9n, R 16e, Pittsburg County—Sec 32, Pattison et al's Smith 1, nec sw se, dr 4255 ft.

T 9n, R 18e, Haskell County—Sec 10, Marion Oil Co.'s Sanders 1, nwc ne sw, sd 2200 ft.

T 5n, R 18e, Latimer County—Sec 15, Limestone O&G Co.'s Murray 1, swc, ur 10-in 1280 ft.

T 11n, R 2e, Pottawatomie County—Sec 32, Wilcox O&G Co.'s Pickard 1, sec sw, dr 4358 ft.

T 10n, R 2w, Cleveland County—Sec 22, Cromwell & Franklin's Donovan 1, c sw, sd 4706 ft.

T 10n, R 3e, Pottawatomie County—Sec 12, Sikes, Kilgore & Shaffer O&R Co.'s Ives 1, c se se, ur 5-in 4577 ft.

T 10n, R 4e, Pottawatomie County—Sec 28, Central National Oil Co.'s Toney 1, swc, cemt 8-in 3980 ft.

T 10n, R 5e, Pottawatomie County—Sec 16. Clark, Edwards et al's School Land 1, nec sw, hfw 4022-50 ft, cemt 5-in 4647 ft.

T 9n, R 1w, Cleveland County—Sec 7, Galt Brown Oil Co.'s Alexander 1, c nw, hfw 4212-80 ft, d and a 4530 ft.

T 9n, R 7e, Seminole County—Sec 15, Pure Oil Co.'s Jonah 1, nwc ne, ts 3492 ft, 10 bbl oil, td 3516 ft, pb 3510 ft, sd.

T 9n, R 8e, Seminole County—Sec 3, Empire G&F Co.'s Butler 1, swc se, td 3508 ft, td 3560 ft, water, pb to 3525 ft, ¶10 and 10 bbl oil per day.

T 8n, R 2e, Pottamatomie County—Sec 24, Superior Oil Corp.'s Jones 1, swc nw ne, fsh 4110 ft.

T 8n, R 5e, Pottawatomie County—Sec 16, I. T. I. O. Co.'s School Land 1, sec sw, flowed 128 bbl 4191-4286 ft, dr.

T 7n, R 1w, Cleveland County—Sec 15, Sooner Oil Co.'s Vandeer 1, nec nw sw, cemt 8-in 2995 ft, sd.

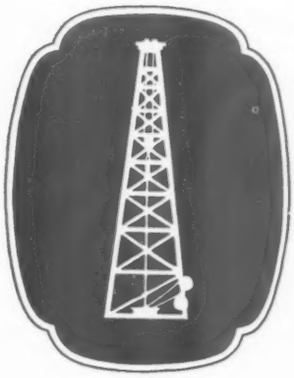
T 7n, R 6e, Seminole County—Sec 7, Simon & Beam's Palmer 1, nec nw ne, rig.

T 7n, R 7e, Seminole County—Sec 5, Mid Cont. Pet. Corp.'s Smith 1, nwc ne, top Wilcox 4443-td 4444 ft, est 60 bbl per hr, shut in for tankage. Sec 32, I. T. I. O. Co.'s Marshall 1, nwc sw, dr 4695 ft.

T 7n, R 8e, Hughes County—Sec 21, Jarvis & Holmes' Street 1, nwc se nw, hfw 4352-4362 ft, pb.

T 6n, R 2e, Pottawatomie County—Sec 10, Davis, Detrick et al's McGahey 1, sec nw, sd 498 ft.

T 6n, R 6e, Seminole County—Sec 1, T. B.S lick's Moore 1, swc ne sw, setting 6-in 2530 ft.



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T 6n, R 7e, Seminole County—Sec 5, Magnolia Pet. Co.'s Vierson 1, sec nw, fsh 3315 ft.

T 6n, R 8e, Seminole County—Sec 18, Carter Oil Co.'s Phillips 1, nwc ne nw, owd, ½ bailer oil per hr 3825-3936 ft, fsh.

T 5n, R 9e, Hughes County—Sec 20, Noble O&G Co. et al's Wicket 1, sec, sd 285 ft.

T 9n, R 22w, Beckham County—Sec 32, O&H Pet. Co.'s Barnes 1, nwc ne, owd, sd 3000 ft.

T 9n, R 5w, Grady County—Sec 13, Remington et al's Fulton 1, swc ne, sd 720 ft.

T 8n, R 23w, Beckham County—Sec 5, Prince Bros., Martin & Atlantic's 1, c sw nw, dr 2868 ft.

T 7n, R 5w, Grady County—Sec 13, Bedman et al's Kemp 1, c sw ne, sd 2400 ft.

T 6n, R 10w, Caddo County—Sec 22, English Drlg. Co.'s Jacobs 1, nwc se, sd 3540 ft.

T 6n, R 12w, Caddo County—Sec 29, W. J. Hartley's Gilbreath 1, sec nw se, owd, sd 3394 ft.

T 5n, R 7w, Grady County—Sec 7, Nichols & Page's Drake 1, cel se, sd 1900 ft.

T 2n, R 10w, Comanche County—Sec 10, Danciger O&R Co.'s Skitler 1, nec se, show gas 2202 ft, lowering pipe.

T 2s, R 16w, Kiowa County—Sec 6, Landfair et al's 1, sec sw se, sd 2263 ft.

T 5n, R 4e, Pontotoc County—Sec 12, Gillespie et al's Fleming 1, swc se, swab 50 bbl 2043-54 ft, 25 bbl at 2556-57 ft, hfw in wx 2838-52 ft, pb 2550 ft, sd.

T 5n, R 7e, Pontotoc County—Sec 36, Shaffer O&R Co.'s Gilcrease 1, nwc ne, gas 2280-2310 ft, td 2340 ft, flowing 150 bbl per day.

T 5n, R 6e, Hughes County—Sec 20, Noble O&R Co.'s Wicket 1, sec, ru, sd 285 ft.

T 4n, R 1e, Garvin County—Sec 15, Dixie Oil Co.'s Perkins 1, sec nw, fsh tools 4270 ft.

T 4n, R 3e, Garvin County—Sec 10, Garland Oil Co.'s Strickland 1, swc nw sw, sd 2650 ft.

T 4n, R 4e, Pontotoc County—Sec 10, Marland Oil Co.'s Lawrence 1, c sw se, fsh 1215 ft.

T 4n, R 6e, Pontotoc County—Sec 35, Bowles et al's Rayborn 1, swc se, sd 1320 ft.

T 4n, R 7e, Pontotoc County—Sec 14, Henry et al's Johnson 1, nec sw sd, 1090 ft. Sec 25, Ada Cement Co.'s Potter 1, nwc, d and a 1485 ft.

T 3n, R 1e, Garvin County—Sec 12, Magnolia Pet. Co.'s Vaughn 1, nwc sw nw, dr 4590 ft.

T 1n, R 2e, Murray County—Sec 17, Revels & McGee's Wolfe 1, nwc, dr 240 ft.

T 1n, R 8e, Coal County—Sec 35, W. E. McGraw et al's Patton 1, swc se ne, sd 935 ft.

T 4s, R 2w, Carter County—Sec 13, Roxana Pet. Corp.'s Saratota 1, sec, c o 2250 ft.

T 5s, R 4e, Marshall County—Sec 11, Bilbo et al's Chapman 1, nec nw ne, sd 380 ft.

T 7s, R 3e, Love County—Sec 7, Magnolia Pet. Co.'s Askew 1, nwc sw ne, dr 3225 ft.

KANSAS

BARBER COUNTY—T 30s, R 14w, Rowland et al's Pickens 1, owd, nec nw ne, sec 27, dr 3085 ft. T 21s, R 12w, Merriman et al's Winters 1, c e½, sec 17, fsh 3105 ft. T 33s, R 12w, Schaffer et al's Boggs 1, c sw sec 19, dr 4230 ft. T 33s, R 13w, Schaffer et al's Carter, c se se, Sec 2, sd 3395 ft.

BARTON COUNTY—T 19s, R 11w, Huffine et al's Smith 1, nec se ne, sec 17, sd 5090 ft. T 20s, R 13w, Everett & Wiley's Ward 1, nwc sw, sec 12, sd 3940 ft.

BUTLER COUNTY—T 25s, R 4e, Wichita Drlg. Co.'s Joseph 1, nec se nw, sec 18, fsh 2265 ft. T 27s, R 3e, La Rob Oil Co.'s Baysinger 1, nec sw, sec 24, rig. T 27s, R 5e, Cress, Frank et al's Bryson 1, nec, sec 26, spd and sd. T 29s, R 4e, E. Wilcox et al's Holcomb 1, nec se nw, sec 21, sd 1456 ft.

CHASE COUNTY—T 21s, R 7e, Greener, Fowler et al's Carson 1, nec, sec 9, sd 750 ft.

CHAUTAUQUA COUNTY—T 32s, R 8e, Roth & Faurot's Hamil 1, nwc sw nw, sec 15, lcn.

CLARK COUNTY—T 31s, R 23w, Walker & Walner's Mitchell 1, swc ne, sec 16, sd 420 ft.

CLOUD COUNTY—T 6s, R 4w, Concordia Oil Co.'s Murdock 1, sec, sec 6, sd 3590 ft.

COFFEY COUNTY—T 22s, R 15e, Garland et al's Goff 1, sec sw se, sec 9, dr 775 ft. Crooks et al's Douglas 1, nec se, sec 11, dr 800 ft.

COWLEY COUNTY—T 30s, R 3e, Vickers Pet. Co.'s Daniels 1, nwc ne, sec 3, sd 1650 ft. T 30s, R 6e, Allison & Fitzwilliams' Manley 1, nec nw se, sec 20, sd 450 ft.

DICKINSON COUNTY—T 16s, R 4e, Skow & Ritchey's Will 1, c nw nw, sec 2, lcn. Harwood & Winters' Utek 1, swc se nw, sec 35, dr 1935 ft.

ELLIS COUNTY—T 13s, R 16w, Tatlock et al's Leiker 1, nwc ne ne, sec 26, sd 3246 ft.

ELLSWORTH COUNTY—8 16s, R 9w, Phil-Mac Oil Co.'s Gregory 1, c sw, sec 24, d and a 4009 ft.

FRANKLIN COUNTY—T 16s, R 18e, Smith, Trace & Fisher's Owens 1, cel e½ e½, sec 17, sd 1450 ft. T 17s, R 17e, Omar O&R Co.'s Bush 1, sec sw, sec 25, lcn.

GEARY COUNTY—T 10s, R 5e, Brinkley et al's Fawley 1, nec nw ne, sec 16, dr 2502 ft.

GREENWOOD COUNTY—T 25s, R 10e, Smalley & Bement O. Corp.'s Rockhill, nwc ne, sec 12, d and a 2032 ft. T 28s, R 12e, Swanson et al's Hayes 1, sec nw ne, sec 1, sd 1600 ft.

GRAHAM COUNTY—T 8s, R 25w, Gulf Coast Drlg. Co.'s St. John 1, owd, swc nw se, sec 27, dr 3260 ft.

JEFFERSON COUNTY—T 9s, R 19e, Northern Counties Oil Co.'s Edwards 1, sec nw nw, sec 13, sd 2405 ft.

LABETTE COUNTY—T 33s, R 17e, Cowell et al's Hornbeck 1, swc ne sw, sec 1, sd 1375 ft.

LYON COUNTY—T 21s, R 10e, Hawks et al's Schroeder 1, sec sw, sec 14, dr 1000 ft.

MARSHALL COUNTY—T 4s, R 7e, Marshall Oil Synd.'s Finn 1, nwc ne ne, sec 4, dr 2606 ft.

MARION COUNTY—T 17n, R 4e, Givins et al's Ucker 1, swc ne, sec 31, dr 2000 ft. T 18s, R 4e, Skow et al's Melcher 1, c ne se, sec 20, ur 1825 ft. T 19s, R 4e, Franks et al's Urich 1, swc nw nw, sec 9, rig. Reed et al's Reed 1, nwc, sec 17, td 2841 ft, pb to 2406 ft, sd. T 21s, R 1e, Sun Ray Oil Co.'s Lehrman 1, swc ne se, sec 1, sd 2710 ft.

McPHERSON COUNTY—T 17s, R 3w, La Mar et al's Lamar 1, sec, sec 1, ur 3495 ft. T 20s, R 3w, Polar Oil Co.'s Dary 1, c nw, sec 20, spd and sd.

MEAD COUNTY—T 33s, R 28w, Blackwell O&G Co.'s Lilly 1, c se, sec 9, sd 3310 ft.

MONTGOMERY COUNTY—T 31s, R 14e, Ramler et al's Faler 1, cnl ne ne, sec 31, td 1085 ft, abn.

MORRIS COUNTY—T 14s, R 7e, Klein et al's Barber 1, sec nw, sec 32, rig. T 16s, R 9e, Lambert et al's Southard 1, swc se, sec 22, lcn.

NEMEHA COUNTY—T 3s, R 11e, Nemeha O&G Co.'s Meyers 1, nwc, sec 19, sd 3050 ft.

OSBORNE COUNTY—T 9s, R 15w, Davis et al's Prather 1, sec sw, sec 30, sd 2360 ft.

OSAGE COUNTY—T 15s, R 15e, Barber et al's Lease 1, c se se, sec 3, sd 260 ft. T 15sfi R 16e, West et al's Bailey 1, swc ne, sec 27, sd 800 ft. T 17s, R 17e, Mull Vit Dev. Co.'s Neil 1, nwc ne sw ne, sec 8, dr 2931 ft.

POTTAWATOMIE COUNTY—T 10s, R 12e, Crawford et al's St. Mary 1, sec 11, sd 2290 ft.

RENO COUNTY—T 22s, R 4w, Danciger et al's Williams 1, nec sw se, sec 6, rig.

RILEY COUNTY—T 10s, R 7e, Youker et al's Theirer 1, nwc, sec 20, dr 3028 ft.

ROOKS COUNTY—T 9s, R 16w, Keys Pet. Co.'s 1, Rathburn, nec sw, sec 14, sd 1350 ft. T 10s, R 16w, Derby Oil Co.'s Kruse 1, nec nw ne, sec 3, shot 60 qt 3075-3141 ft. co. Streeter & Stearns Mattison 1, c nw, sec 28, dr 3011 ft.

RUSH COUNTY—T 17s, R 17w, Valerious O&G Co.'s Schreverman 1, c nw, sec 27, spd and sd.

SALINE COUNTY—T 15s, R 2w, Menter O&G Co.'s Muir 1, swc, sec 17, fsh 3205 ft.

STAFFORD COUNTY—T 21s, R 11w, Harper et al's Siffers 1, owd, nwc sw ne, sec 23, ts 3385-3400 ft, show oil.

SUMNER COUNTY—T 33s, R 3w, Otstot et al's Bartlow 1, sec, sec 22, sd 1850 ft. T 34s, R 2w, Gypsy Oil Co.'s Douglas 1, nec se nw, sec 23, ts 4493-4499 ft, 16 bbl per hr. T 34s, R 3w, Jarvis et al's Wenrich 1, sec sw, sec 4, sd 4205 ft. T 34s, R 4w, Jarvis et al's Wycoff 1, swc nw, sec 11, sd 4216 ft. T 35s, R 1e, Otstot et al's Volker 1, nwc ne, sec 9, rig.

WABUNSEE COUNTY—T 12s, R 11e, Empire O&G Co.'s Schwalm 1, sec, sec 19, fsh 3320 ft. T 13s, R 12e, Williams et al's Henderson 1, nec sw ne, sec 15, sd 3600 ft.

WOODSON COUNTY—T 25s, R 14e, Howard et al's Riley 1, nwc sw, sec 31, lcn.

MOUNTAIN STATES

WYOMING

BIG HORN—Agate Oil Co., ne 13-51-92, plugged and back and cemt at 842 ft. Utah-Southern Oil Co.'s 3, 29-56n-97w, dr 2530 ft. Wisconsin-Himes, 9-54-94w, delayed by title trouble.

CARBON—Graybeal Synd., 16-28-91, sd 4380 ft. Pacific-American, 31-51-91, lcn.

CONVERSE—A. E. Tylee, ne 8-32-72, sd. Criterion Oil Co.'s Irvine 1, 5-31-70, cemt csg. John Ackard's McKinley 1, 21-31-69, sd 3000 ft.

FREMONT—Producers & Refiners' Muskrat 1, 34-34-92, run csg 2085 ft. Texas Production Co.'s Alkali Butte 1, 1-33-92, dr 1705 ft. Zola Oil Co.'s Crook's Gap 1, 25-27n-93w, sd 3750 ft Iowa-Wyoming Inv. Co., 30-1s-2e, bottomed at 1500 ft.

JOHNSON—Fairway Oil Co.'s Crazy Woman 1, 7-47-82, showing oil and gas at 2095 ft. Tarrant Synd., 2-17-46n-82w, sd 3625 ft. Murphy & Grove, 10-41n-80w, will abn.

LINCOLN—Fontenelle Oil Co.'s 1, ne ne 1-24n-113w, no report. California Co.'s Snyder Basin 1, 11-29n-115w, td 1117 ft.

NATRONA—North Casper Creek O&G Co., se 1-36-82, no report. Combe Inv. Co., 12-9-78, dr.

NIOBRARA—Penn-West. Pet. Co., 13-35n-62w, bottomed 800 ft. Hollingsworth Bros., 17-39-79, fsh.

PARK—Union of Calif.'s Taylor 1, 22-47-101, dr 3500 ft. Fred G. Ostland's Hoodoo Ranch 1, 23-51-101, sd 1740 ft. Honolulu Oil Corp.'s Four Bear 1, 29-48-103, sidetracking csg at 2775 ft. Ralph Arnold & Chas. Mau, ne 25-58n-98w, delayed. Ydoc Oil Co., ne 6-51n-101w, fsh 915 ft. Honolulu Oil Corp.'s Pitchfork 1, 14-48n-102w, lcn. Hoodoo Oil Co., 36-51-101, dr 465 ft.

PLATTE—Walter Adams, Trustee, 13-25-66, dr.

SWEETWATER—Boar's Tusk Oil Co., 16-23-104, water at 1450 ft. Prairie O&G Co.'s Tucker 1, 18-13-99, sd 150 ft. P. & R.-Marland of Colo., 26-20-104, sd 485 ft. Tower Pet. Co.'s 1, 6-14n-103w, dr 400 ft.

WASHAKIE—Unnamed persons, ne 15-44-64, dr suspended for the winter at

Be Careful In The Selection Of Lubricants For Your Motorized Equipment

Passenger cars and trucks of different makes vary considerably in type and design.

Be sure that you understand: (1). The type of lubricating system used, which determines the method of feeding the oil. (2). The type of cooling system used, this factor having more or less effect on the operating temperatures of various parts of the motor.

The proper lubrication of motor equipment means not only the lubrication of the engine cylinders — but the complete lubrication of all of the moving parts of the motor. Much harm can result from the use of too heavy an oil in a pressure system not designed to handle it—also where the "splash" system is used, the oil must not only flow easily, but must atomize readily so as to reach certain bearings which can be lubricated only by a fine mist. Your passenger cars and your trucks are designed to give you many years of service—if they are properly lubricated.

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600 ft. Gose Syndicate's 1, ne 28-47n-65w, attempting to pull 4¾-in at 4850 ft.

UINTA—Uinta Oil & Dev. Co., 21-51n-120w, dr below 1317 ft. Evanston O&G Co.., 27-15-120, diamond dr below 540 ft.

ALBANY—Union of California, 33-17-75, rigging up.

NEW MEXICO

CHAVES—Gibson Oil Corp.'s Forsyth 1, 8-11-23, abn at 672 ft. Buffalo-Roswell's 1, 24-11-27, sd 4300 ft. Arena Oil Co.'s 1, 19-13e, 31e, standing at 835 ft. McQuigg Bros.' Neis 1, 7-5w-29e, standing at 1525 ft. Berrendo O&G Co.'s 1, 5-10s-27e, lcn.

CURRY—Hasson Pet. Co.'s Laird 1, 22-8-36, spd and sd. Clovis O&G Co.'s Hoskinson 1, 21-3n-36, dr 3975 ft.

GUADALUPE—Hanchett Oil Co.'s Rutherford 1, 24-8-24, sidetr lcn tools at 4067 ft. Union Pet. Co.'s McMullen 1, 24-5n-16, sd 235 ft. Navajo Oil Co.'s Goard 1, 10-31-7, standing at 2538 ft.

LEA—Midwest Ref. Co.'s State 1, 9-19s-38e, dr 1500 ft. Marland Oil Co.'s 1, 19-26s-37e, rigged.

McKINLEY—Smart & Reid, 7-17-9, rig. Inland Oil Corp., 22-18-10, dr 1100 ft. S. Dysart's 1, 21-14-9, sd 1630 ft. Continental Oil Co.'s Carrica 1, sw 9-17-7w, dr 2970 ft. Jenkins Oil Co.'s 1, 1-16n-9w, undrr 1300 ft. Williams et al, 2-30-18n-8w, standing at 1795 ft. Reliance Oil Co.'s Valentine 1, 16-17-9, dr 1103 ft. Producers & Refiners' Hospah 2, 12-17-9, spd.

QUAY COUNTY—Gibson Oil Corp.'s 25-8-32, operations to be resumed at 3500 ft. Ohio Oil Co.'s Jordan Ridge 1, 24-7-29, abn 5204 ft.

SAN JUAN—Continental Oil Co.'s Munoz 17, 2-29-19, dr 4300 ft. Kansas-Colo. Oil Co.'s Atterberry 1, 23-31-11, sd at 1850 ft. T. C. N. Oil Co.'s Lanier 1, 9-29-11, sd 547 ft. Huntington Park Oil Co.'s 2, 20-30-9, dr 4270 ft. R. M. Smith's Abrams 2, 23-29-11, standing 532 ft. Huerfano Oil Co.'s Wiltbank 1, 25-29-11, standing 80 ft. Union Oil & Mining Co.'s Pine 2, 8-29-9, sidetr tools, td 2850 ft. San Juan Pet. Corp.'s 1, 9-29n-13w, dr 2000 ft. A Johnson, Trustee's 1, 34-29n-11w, dr 825 ft. Poole & Peebles, Lawson 1, 9-30n-11w, dr 800 ft.

SOCORRO—Abo Oil Co.'s 1A, 14-3s-6e, set 12½-in at 600 ft and sd.

TORRANCE—Duran Dome Oil Co.'s 1, 31-2-14, dr 1585 ft. F. G. Wilson, Trustee's Pace 1, 12-6n-27, standing 2215 ft. Bluhall O&G Co., 20-6n-10e, dr 800 ft. San Juan Coal & Oil's Randall 1, 26-6n-10e, dr 5000 ft.

VALENCIA—Acme Oil Co., 26-6-3, undrr 2210 ft. Stone et al, 25-7-2, sd 1967 ft, financial difficulties.

COLORADO

ARCHULETA—Kansas - Colorado Oil Co., 17-34-2w, will resume at 1300 ft.

BACA—Phillips-Jones' Jones 1, 26-34s-48w, may skid derrick.

BOULDER—Left Hand Oil Co.'s Prechtl 1, 34-3n-70, ur 4¾-in to 1998 ft. Essok Oil Co.'s Martin 1, 5-1s-70, sd, hole full oil, 5225 ft. Repollo Oil Co.'s Nichols 1, 32-1n-70w, undrr to bottom at 6015 ft.

EL PASO—Grand Union Oil Co.'s John Jr. 2 ,9-17s-67w, sd 775 ft.

HUERFANO—Kinney-Coastal Oil Co.'s Pine 1, 24-26s-68w, dr 600 ft.

JACKSON—North Park Oil Co.'s Goettler 1, 9-6n-82w, standing at 506 ft.

LAS ANIMAS—Parker Club, Inc.'s Adams 1, 32-34-55, dr 3860 ft. Foley & Goldsworthy's Gov't 1, 11-30-50, standing 2010 ft. Reiter-Foster & Phillips, 23-29s-56, dr 700 ft.

LA PLATA—East Long Beach Oil Co.'s Aspaas 1, 10-34n-11w, set 10-in at 902 ft. Detroit Oil Ass'n's Olbert 1, 9-35-12w, sd 1375 ft.

LARIMER—Five Square O&G Co.'s State 1, 16-4n-69w, standing at 305 ft.

LOGAN—Northeastern Colorado Oil Co.'s State 1, 36-8n-55w, fsh 5545 ft.

MOFFAT—Ohio Oil Co.'s Kuykendall 1, 22-21n-11w, sd for winter. Reiter-Foster Oil Co.'s State 1, 16-12-100, sd 2240 ft. Yark Producing & Ref. Co.'s 205, 26-4n-92w, dr 3325 ft. Alliance Oil Co.'s Milliken 1, 14-4n-92w, dr 831 ft.

MONTEZUMA—Coon & Cotton's Hall 1, 9-35n-13w, dr 1265 ft.

MONTROSE—Indian Pet. Corp.'s Gilmore 1, 4-45-16w, bit lost at 4210 ft.

RIO BLANCO—Texas Prod. Co.'s Freeman 1, 27-3-94, dr 5282 ft. Argo Oil Co., sw 9-2s-96w, spd.

ROUTT—Great Western Oil Co.'s State 1, 17-60n-56w, standing at 1700 ft.

WELD—Platte Valley Pet. Corp.'s Patterson 1, 24-6n-61w, dr 3700 ft.

MONTANA

BIG HORN—Selig Oil Co.'s 1, se 21-6s-35, dr below 700 ft.

CARBON—Ohio Oil Co.'s Northern Pacific 1, 11-7s-21e, dr 3545 ft. Atlantic Oil Co.'s 3, 20-7s-24e, csg cemt 948 ft.

CASCADE—Lone Star's McLean 1, 12-21n-3e, sd 100 ft.

CHOTEAU—Geraldine O&G Co., sw ne 1-21-11e, rigged, ready to spd.

FERGUS—Melton Corp's Fenholt 1, 24-21-17, dr below 2290 ft. Mineral Research Oil Co.'s 1, 13-17-23, bottomed at 843 ft.

FLATHEAD—Flathead Pet. Co.'s Reservation 1, se 35-23-22w, rig.

GARFIELD—Carrol & Parkinson, 6-14n-31e, standing cemented at 1431 ft.

GLACIER—Rimrock Oil Co., 29-35-5w, rig.

HILL—A. H. McFarland, sw 15-30-13e, sd 100 ft. Gad-Hamilton et al's Goldstone 1, sw 25-35-9e, rig. Equitable Oil Co.'s Perkins 1, 34-33-12e, waiting csg at 3350 ft.

LIBERTY—Chester Oils Inc.'s Laid 1, 31-37n-6e, bottomed at 2020 ft. Sunburst O&R Co.'s Disotell 1, 10-37n-5e.

MADISON—Madison County Oil Co.'s 1, ne 17-7s-1w, sd 1700 ft.

MUSSELSHELL—Manhattan Oil Co., ne 24-7-24e, sd 60 ft. McElwain Oil Dev. Ass'n, 2-11-22, rig.

RICHLAND—Community Drill. Co.'s Pioneer 1, rigging to drill deeper from 2600 ft.

ROOSEVELT—Pioneer O&G Co.'s 1, se 35-27-51w, sd 1590 ft.

PONDERA—S. C. Ferdig et al, 8-27-4w, rig. Continental Dev. Co., sw 19-27-3w, dr below 1350 ft.

PHILLIPS—Big Dome Oil Co.'s Bloomerg 1, ne 1-32-32e, dr below 1000 ft.

SWEETGRASS—Shoshone Consolidated, w 23-2n-15w, dr 2400 ft.

TETON—Dilling et al, ne 9-25-1e, fsh 1408 ft. Continental Dev. Co.'s Ritmoure 1, 8-27-5w, bottomed at 900 ft. Craig-Speer-McCutcheon, 9-23-2w, spd and sd.

TOOLE—Kevin-Flathead Oil Co.'s 1, ne 27-36n-2e, sd 2200 ft. Zenith-McDonald's Lowey 1, 35-36n-1w, bottomed at 2135 ft. Sunburst O&G Co.'s Grandview 1, 10-34-32, rig. Madeline Oil Co.'s Swenson 1, 33-35-4w, bottomed at 550 ft.

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BOSSIER PARISH—		
Ark. Nat. Gas Co., Barnett 1, 17-23-12	*	3118
CADDO PARISH—		
Belchic & Lasky, Croom 1, 10-18-16	*	956
Magnolia Pet. Co., J. Furrh 1, 32-18-16	*	2755
Shreveport Oil Corp., State 1, 23-21-16	*	....
Woodley & Collin, McVey A-1, 23-19-14	*	2603
SABINE PARISH—		
S. P. Borden Tr., Logan 1, 36-10-13	*	3314

BIENVILLE PARISH—E. J. Forrest's Perritt 1, 11-17-6, dr 2815 ft. Lake Bistineau Gas Co.'s State 1, 18-16-10, sd 2531 ft. La. Pet. Co.'s Hayes 1, 18-16-5, coring 2940 ft.

BOSSIER PARISH—Atlantic Oil Prod. Co.'s Bain 1, 31-23-11, lcn. Bahan & Bahan's Holmes 1, 36-23-12, dr 600 ft. R. L. Crook's Larkin 9, 14-19-11, lcn. Davis et al's Simpson 5, 14-16-12, dr 1680 ft. Doern et al's Bollinger 1, 9-22-11, dr 3626 ft. Ellis & Markley's Hunter 5, 14-16-12, rig. H. S. Goodwin Tr.'s Mercer 1, 21-16-12, dr 987 ft; Curtis 2, 36-17-13, dk. Hamiter et al's Hamiter 1, 10-23-13, dr 1740 ft. Humble's B. & W. 30, 15-19-11, dr 4929 ft. La. Oil Ref. Corp.'s Fee D-32, 15-19-11, 8-in csg stuck at 90 ft. Magnolia's Cason 1, 1-22-12, lcn. J. S. McCollough's Hodges 5, 25-16-12, set 6-in at 1530 ft. Northwest La. Gas Co.'s Bain 1, 31-23-11, dr 1000 ft. O'Brien Bros., Farrington 1, 21-23-12, set 6-in at 3088 ft. Palmer Corp.'s Roberson 1, 26-23-12, dr 190 ft. R. O. Roy's Werner 1, 7-17-11, dk. The Texas Co.'s Peyton 1, 30-23-11, dr 1035 ft; Wilkerson 2, 36-23-12, rig. Sales & Walker's Kilgore 1, 31-23-11, dk. Walker et al's Antrim 1, 28-22-12, dr 2835 ft. Woodley & Collins' L. & A. 3, 15-23-12, sd 3250 ft; Bain 1, 31-23-11, dk; Bollinger 1, 36-23-12, rig.

CADDO PARISH—Ark. Nat. Gas Co.'s Alexander 1, 20-16-15, dr 2721 ft; Lane 1, 13-21-15, dr stem stuck 3675 ft. Bee Oil Co.'s Muslow 1, 29-20-15, sd 1125 ft. J. W. Burton Tr.'s Caldwell 8, 18-21-15, dk. Belchic & Lasky, 10-18-14, dk; Sharp 5, 10-18-16, lcn. W. D. Chew's State 6, 34-21-16, dk. Dixie Oil Co.'s Robertshaw 90, 14-21-15, r 3986 ft; Robertshaw 91, 14-21-15, dk; Robertshaw 92, 13-21-15, dr 3668 ft; Huckaby 1, 33-22-15, dr 2374 ft; Huckaby 4, 11-21-15, set 6-in at 3874 ft. Gulf Ref. Co.'s Tyson 14, 14-21-15, flowing 3975 ft. Greenwood Prod. Co.'s Cooper & Ellerbe 1, 15-18-14, fsh 2814 ft. Haynes Bros.' Spell 1, 15-21-15, sd 3911 ft; Spell 2, 15-21-15, sd 3092 ft. Magnolia Pet. Co.'s W. M. Bell 2, 6-17-16, dk; J. W. Furrh 1, 28-18-16, r 1998 ft; Dillon 18, 24-21-15, dk; Dillon 21, 23-21-15, lcn; Robertshaw 21, 23-21-15, coring 3662 ft; Hampton A-8, 15-21-15, arr to set 8-in at 3778 ft. Ohio Oil Co.'s Smith 25, 12-21-15, sd 6001 ft. Pittsburgh O&D Co.'s Herndon 1, 15-21-15, ds stuck 4004 ft. Shreveport Oil Corp.'s Muslow 2, 32-21-15, lcn. Simplex Oil Co.'s Baird 2, 22-20-15, dk; Thomas et al 3, 15-20-15, wosr 2355 ft; Thomas et al 4, 15-20-15, wosr 2208 ft. Standard Oil Co.'s Barry 12, 11-20-16, dk; Stiles 190, 27-21-16, sd 1984 ft; Hart 17, 34-21-16, dr 1825 ft. Superior Oil Co.'s Youree 8, 26-20-15, wosr 2318 ft. Standish Oil Co.'s Jolly 1, 22-22-15, cemt cavity at 1048 ft. The Texas Co.'s C. M. L. 47, 23-21-15, sd 3657 ft; Herndon 7, 14-21-15, dk; Herndon 8, 14-21-15, blg 3705 ft; Herndon 9, 14-21-15, dr 3630 ft; Raines 19, 15-21-15, fsh 4457 ft; Noel B-13, 14-21-15, sd 3815 ft. Tubbs et al's Hines 1, 16-14-16, dr 2350 ft.

CALDWELL PARISH—Grayson Oil Co.'s Crockett 1, 6-12-4, sd 2692 ft.

CATAHOULA PARISH—Lochnager Oil Co.'s Beazley 3, 26-9-6e, rig. Standard Oil Co.'s Tensas 1, 23-8-5e, skidding dk.

CLAIBORNE PARISH—El Dorado Chief Oil Co.'s Jones 1, 8-20-6w, rig. Magnolia Pet. Co.'s Lee 1, 16-22-8, dr 5053 ft.

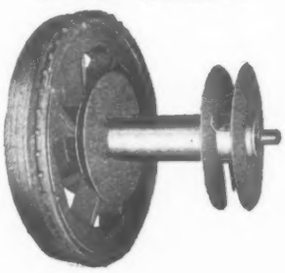
DE SOTO PARISH—American Controlled Oil Co.'s Lanier 2, 5-11-11, sd 2720 ft. L. H. Askew's Richardson 3, 25-13-11, set 6-in at 2499 ft. Benson Oil Co.'s Wolf 2, 3-10-13, set 10-in at 201 ft. Carlton Drlg. Co.'s Stevens 1, 12-11-16, sd 1000 ft. Dixie Oil Co.'s Jenkins 1, 9-12-11, dr 6002 ft. J. W. Downey's Dickson 1, 23-14-13, dr 1200 ft. Foster et al's Johnson 1, 7-10-12, dr 2650 ft. Hazlett-Simmons' Neely 2, 1-14-12 sd 600 ft. R. O. Roy's Lee 1, 3314-13 ft, dk; Whittaker 1, 4-13-13, rig; Tracy 1, 3-13-13, dk. Reliance Drlg. Co.'s Jones 1, 8-11-14, fsh 2910 ft. Wingfield et al's Haygood 1, 18-10-12, sd 2400 ft.

FRANKLIN PARISH—Barbour Oil Co.'s Baker 1, 3-15-7e, sd 2884 ft. Pittsburgh O&D Co.'s Moore 3, 12-11-6e, dr 2320 ft. Louisiana Pet. Co.'s Tensas 1, 11-11-6e, sd 2503 ft.

GRANT PARISH—W. D. Ball et al's Calhoun 1, 4-7-4w, sd 2106 ft. Swope et

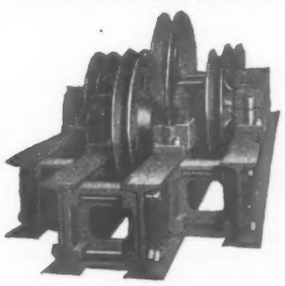
UNITED
BRADFORD
RIG IRONS & STEEL EQUIPMENT

CALF WHEEL



BAND WHEEL

CROWN BLOCKS



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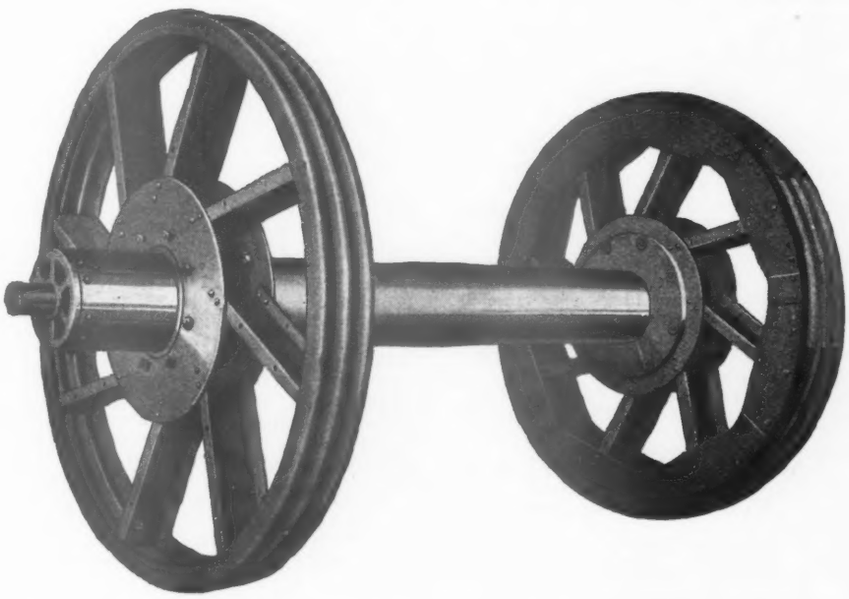

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"UNITED-BRADFORD" Bull Wheels are manufactured in sizes of 7½ ft. and 8 ft. diameter, with 9" and 12" face Brake Wheels, and equipped with shafts 16" or 18" in diameter with wall thickness of ⅜", ½" or 1⅛". The arms of the wheels are riveted to steel flanges, eliminating the attaching of arms to shafts. Assembling is done by placing wheels on shafts and bolting the steel flanges to the hubs. All bolts are easily accessible and nuts can be tightened with ordinary wrench. No part of these wheels can get out of line through rough handling in transporting. The more important features of "United-Bradford" Bull Wheels are the Ease of Assembly, Dependability in Design and Construction, Perfect Alignment and Balance—insuring smooth-running equipment that will operate satisfactorily for years to come.

Throughout all Mid-Continent fields, and in Texas, Arkansas and Louisiana, "United-Bradford" Rig Irons and Steel Equipment are in wide-spread use, providing an unexcelled service and satisfaction that causes them to be preferred by many operators.

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Winfield	Okmulgee	Panhandle
Keighley	Seminole	Borger
Hutchinson		Shamrock
	ARKANSAS	Trent
	El Dorado	McCamey
	Smackover	Pyote
		Odessa
		Santa Rita

Manufacturers of RIG IRONS and STEEL EQUIPMENT STEEL TANKS DRILLING MACHINES SWAB BARRELS

al's Fee 3, 18-0-1e, sd 1607 ft; Fee 5, 18-9-1e, rig.

LA SALLE PARISH—Elbert Pet. Co.'s Urania B-3, 7-10-2e, sd 700 ft. Wingfield et al's Gibson 2, 2-9-1e, sd 3073 ft.

MADISON PARISH — W. S. Smith's Yerger 1, 51-16-4e, arr to deepen 1700 ft.

MOREHOUSE PARISH — Chas. Bennett's Davis 1, 51-16-4e, dk. Consolidated Pet. Co.'s Perry 1, 14-20-4e, set 6-in at 2105 ft. G. E. Jordan's Southern Carbon Co 1, 14-20-4e, set 8-in at 328 ft. Moody & Seagrave's Wolfe 1, 13-20-4e, dr 800 ft. The Texas Co.'s Meyer 1, 15-22-7e, dr 1404 ft. United Carbon Co.'s Atkins 1, 26-20-5e, dk.

NATCHITOCHES PARISH—Lawson & Pharris' Crowell & Spencer Lbr. Co. 1, 22-5-6w, dr 980 ft.

OUACHITA PARISH—J. M. Huber's Edwards 4, 1-18-4e, set 8-in at 914 ft. Imperial O&G Co.'s Tubbs 4, 13-19-3e, set 8-in at 843 ft. Jordan Drlg. Co.'s Slagle 1, 48-18-4e, dk. Moody & Seagrave's U. S. Gov't 1, 1-19-3e, sd 70 ft. Peerless Carbon Co.'s Moore 3, 49-20-4e, rig. Palmer Corp.'s West Virginia Timber Co. 3, 5-18-4e, set 6-in at 2155 ft; Cantral 2, 1-19-4e, lcn. United Carbon Co.'s Nelson Fee 2, 6-19-5e, dr 2105 ft.

RAPIDES PARISH—Collins Bros.' Allen 1, 25-5-1w, sd 1410 ft.

RICHLAND PARISH—J. M. Fuller's Boise 1, 33-16-6e, lcn. Gulf Ref. Co.'s Millsaps 1, 8-17-6e, arr to deepen 2428 ft; Rhymes 3, 28-17-16, set 15½-in at 115 ft; Weymond 1, 20-18-6e, dr 1135 ft. La. Pet. Co.'s Binion 1, 22-17-6e, sd 2474 ft. Moody & Seagrave's Osborne 1, 14-15-5e, fsh 2493 ft; Hatch 1, 34-16-15, dr 2125 ft; Hemler C-1, 29-16-6e, dr 2265 ft; LaFlouer 1, 18-16-6e, dr 1800 ft; McDonald 1, 9-15-5e, dr 510 ft. Nat. G&F Corp.'s Sortor Phillips 1, 9-16-6e, dr 2200 ft; Sortor B-3, 19-16-6e, lcn; Sortor B-4, 19-16-6e, lcn; Thompson A-1, 21-16-6w, set 6⅝-in at 2290 ft. Noe & Meredith Tr.'s Broughton 1, 4-15-6e, set 10-in at 161 ft. Ouachita Nat. Gas Co.'s Cummings 1, 24-17-5e, sd 1800 ft. Oliver & Master's Hatch 2, 2-15-5e, dr 100 ft. Palmer Corp.'s Wayne 2, 23-16-5e, dr 2510 ft. Ruston Drlg. Co.'s Sortor 1, 17-16-6e, dr 1500 ft. Southern Carbon Co.'s Sortor 2, 20-16-6e, rig; Sortor 3, 18-16-6e, dk. Stovall Drlg. Co.'s Dunning 1, 26-16-6e, sd 2450 ft. United Carbon Co.'s Mulhern 1, 20-16-6e, set 8-in at 832 ft.

SABINE PARISH—Clark-Seip et al's Moore 1, 32-10-12, dr 3190 ft. Dixie Oil Co.'s Steinfield 1, 20-10-12, swabbing 3285 ft. Doern et al's Pickering Lbr. Co. 1, 17-4-11, set 10-in at 100 ft. L. M. Emlet's Bowman Hicks 6, 8-7-12, sd 3710 ft; Bowman Hicks 7, 11-7-14, r 3822 ft; Mansfield H. L. Co.'s 1, 15-7-14, dr 1145 ft. Ruffian et al's McElroy 1, 33-10-12, rig.

UNION PARISH — Barbour Oil Co.'s Tugwell 1, 21-22-1e, sd 2080 ft. Carter et al's Security Trust 1, 7-23-1e, sd 2250 ft. Industrial Gas Co.'s Hill 2, 9-20-3e, dk. Interstate Nat. Gas Co.'s Parks 1, 23-20-3e, dk; Stephenson 1, 6-21-4e, lcn. Natural Gas Prod. Co.'s Waldrop 1, 7-21-3e, dr 880 ft. John Potts Agt.'s Bernstein 1, 30-20-4e, set 8-in at 850 ft. Ruston Drlg. Co.'s Steele 1, 36-20-3e, rig.

WEBSTER PARISH—Ark. Nat. Gas Co.'s North Central Texas 1, 26-23-10, dr 1905 ft. Humble O&R Co.'s Gray 1, 26-21-10, dr 4308 ft; Babb 5, 14-21-10, arr to bail 4226 ft. S. A. Lane's Miles 1, 24-17-9, sd 1469 ft. Magnolia Pet. Co.'s Camp 1, 36-23-10, lcn; Aarnes Cox 3, 22-21-10, dk; Mixon 1, 22-21-10, dr 3569 ft; Cole 1, 27-21-10, sd 4215 ft; Munn 1, 29-23-9, waiting for casing 2680 ft; J. L. Munn 1, 36-23-10, dr 1666 ft; R. J. Munn 1, 29-23-9, lcn; D. G. Cox 1, 22-21-10, fsh 3898 ft. Harry Morris et al's Lewis 1, 15-23-9, dk. Ohio Oil Co.'s Crichton 2, 21-21-10, dr 2536 ft; Bodcaw 38, 15-21-10, dr 3025 ft.

WINN PARISH—Ohio Oil Co.'s Rolen Account 2, 5-12-1w, dr 3880 ft. H. M. Roark's Southern Mineral Co. 3, 19-11-3w, dr 735 ft.

WEST CARROLL PARISH — Palmer Corp.'s White 1, 2-18-10, dr 2827 ft.

EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
CHEROKEE COUNTY—		
Humble, Elliott & Clark 1, m. Windsor sur	*	4346

ANDERSON COUNTY—Brooks et al's Henby 1, Joseph Mertz sur, dk. Humble's Spencer Clemens 3, Sessions sur, dr 4208 ft; Lizzie Smith 1, Dan Roberts sur, tested hole full of oil 3732 ft, arr to drill deeper.

CASS COUNTY—The Texas Co.'s Mott 1, A. Douthit sur, rig; Pruitt 1, W. G. Lissenbee sur, dr 1180 ft.

CAMP COUNTY—J. C. Rogers' Boyd 1, R. M. Montgomery sur, sd 750 ft.

CHEROKEE COUNTY—Panhandle Oil Co.'s Whalen 1, J. Jordan sur, sd 1300 ft. Joe Walter et al's Barns & DeLoach 1, Perry Reese sur, sd 976 ft.

FREESTONE COUNTY — Roxana, s Marshall 1, D. E. Marshall sur, dk.

HENDERSON COUNTY—W. K. Cayton et al's Hoffer & Nash 1, H. Jefferson sur, sd 2910 ft.

HARRISON COUNTY—J. R. Bahan's Furrh 6, J. Short sur, set 6-in at 995 ft. Cox et al's Furrh 1, J. Short sur, dr 500 ft. Doney et al's Furrh 2, J. Short sur, dk. C. H. Lyons' Furrh 2, R. W. Bedford sur, dk. Magnolia's Vincent 1, R. W. Bedford sur, set 8¼-in at 967 ft. Mitchell et al's Jones 1, J. Lipscomb sur, wosr 957 ft. State Line O&G Co.'s Waterman 6, J. Short sur, dr 1723 ft.

KAUFMAN COUNTY—Cranfield et al's Nicholson 1, A. Bennett sur, sd 3250 ft.

MARION COUNTY—Lumbermans Oil Co.'s Bonham 1, R. Potter sur, sd 1200 ft.

NACOGDOCHES COUNTY — P. R. Harris et al's Griffin 1, J. W. Anderson sur, sd 1301 ft. Stein & Lewis' Birdwell 1, Jose A. Chirino sur, sd 1100 ft. Union Sulphur Co.'s Whitermark 1, Jose A. Chirino sur, sidetracking ds 1800 ft-td 2812 ft.

PANOLA COUNTY—Bethany O&G Co.'s Richardson 3, J. Yarnell sur, set 6-in at 1035 ft. S. H. Gardner et al's Roquemore 1, B. C. Jordan sur, set 6-in at 2204 ft. H. Hines' Jones 1, G. Goodwin sur, dr 1910 ft. Magnolia Pet. Co.'s Fletcher 1, B. C. Jordan sur, sd 2835 ft; Sol Oden 1, E. F. Mitcheson sur, dr 2216 ft; Trosper 1, J. Shandoin sur, wosr 2416 ft; Tilberry 1, Jane Thorpe sur, rig. D. Thomasson's Crenshaw 3, J. Womack sur, rig. The Texas Co.'s Adams B-7, J. Hatcher sur, rig.

RUSK COUNTY—C. M. Joiner et al's Bradford 1, J. Ximines sur, fsh 1110 ft. Magnolia's Durren 1, Agulla Norris sur, dk. McCurrie et al's Sparks 1, Jessee Coarse sur, sd 2148 ft. Rusk Dev. Co. & Osborne et al's Matthews 1, D. Cortinas sur, sd 2330 ft.

SHELBY COUNTY—Magnolia's Pickering Lbr. Co. 1, Wm. J. Crane sur, dr 3545 ft. William Sebastian's Pickering Lbr. Co. 1, T. F. Polly sur, waiting for csg 2923 ft.

UPSHUR COUNTY—S. W. Richardson's Newsome 1, J. R. Davis sur, sd 2025 ft. Minor 1, A. Lowery sur, fsh 3500 ft.

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
DREW COUNTY—		
McClintock et al, Ogle 1, 35-13-5	*	2550
UNION COUNTY—		
Murdock et al, Vestal 1, 17-16-15	*	2561
Ohio Oil Co., Rick Pumphrey 3, 2-17-14	*	3217
Standard, Murphy 33, 4-16-15.	*	2585

BRADLEY COUNTY—Johnson & Adams' Southern Lbr. Co. 1, 12-12-12, tested dr 2226 ft.

CLARK COUNTY—McKenzie Oil Co.'s Eaken 1, 9-11-19, sd 635 ft.

COLUMBIA COUNTY—Mitchell et al's Franks 1, 25-19-22, sd 150 ft. Sunny Jim Oil Co.'s Runyon 1, 3-16-21, dr 2976 ft. Van Hagen Synd.'s Pickler 1, 19-19-12, sd 850 ft; Mason 1, 31-19-22, rig.

GRANT COUNTY—Jones et al's Meeks 1, 5-4-11, sd 1400 ft.

LINCOLN COUNTY—Pine Prairie O &G Co.'s Carter 1, 33-10-6, sd 2176 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 2-13-31, sd 2941 ft.

MILLER COUNTY — Guess et al's Saunderson 1, 14-15-26, coring 2555 ft.

NEVADA COUNTY—Aines & Zingg's Womack B-1, 10-14-21, wosr 1215 ft. McDonald et al's Pell 1, 9-15-22, sd 2424 ft. J. J. O'Brien's Haynie A-5, 6-14-20, wosr 1204 ft; Haynie B-5, 1-14-21, plugged back to 1163 ft; Moss A-17, 1-14-21, rig.

OUACHITA COUNTY—Little Fay Oil Co.'s Robertson 4, 25-15-16, dk. Standard's Goodwin B-1, 6-16-15, dr 2386 ft.

UNION COUNTY—C. H. Allison's Fitzgerald 10, 17-18-15, arr to drill plug 2154 ft. E. M. Jones' Crain 2, 2-17-14, sd 3012 ft; Crain 3, 2-17-14, sd 3670 ft; Crain 4, 2-17-14, sd 3067 ft. W. R. Keever's Kavanaugh 1, 12-17-15, dk; Ezell 5, 12-17-15, wosr 2170 ft. Lion O&R Co.'s Leverette 1, 11-16-16, fsh 1979 ft; Murphy D-7, 8-16-15, sd 2762 ft. Laurel O &G Co.'s Houston 1, 12-16-16, fsh 2630 ft. Lyall et al's Stegall 1, 11-17-13, set 12½-in at 47 ft. Magna Prod. Co.'s Dumas 1, 11-17-14, set 10-in at 157 ft; Townsend 1, 10-17-14, rig; Howland 1, 14-17-14, dr 1400 ft. Magnolia's Carroll 2, 1-17-14, sd 1500 ft; Laney 3, 8-16-16, dk; Laney 4, 8-16-16, dk. Mountz et al's Pratt 6, 8-16-15, recemented 6-in csg at 2146 ft. C. E. Murdock's Murphy 2, 17-16-15, bld dry 2113 ft. Morefield et al's Hill 1, 7-18-14, set 10-in at 148 ft. National Consolidated Pet. Corp's Fagg 1, 8-16-16, wosr 2643 ft. Ohio Oil Co.'s Crain 4, 1-17-14, dk; Crain 6, 1-17-14, wosr 3031 ft; Goode 2, 2-17-14, sd 3054 ft. Oil Well Corp.'s Dumas 1, 11-17-14, arr to set 6⅝-in at 3060 ft. Pitcher et al's Arkansas Timber Co. 1, 21-17-11, dr 2140 ft. Pitcher & White's Kinard 1, 17-19-15, dr 2650 ft. Dr. Rushing et al's Gregory 1, 11-17-14, set 10-in at 159 ft; Gregory 2, 11-17-14, rig. Rice et al's Newton 1, 13-17-16, sd 3183 ft. Rovenger Oil Corp.'s Perdue 1, 2-17-14, dk. Timberlake et al's Dumas 1, 11-17-14, rig. L. M. Vaughan Tr.'s Ezell 2, 12-17-15, rig.

NORTHERN CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
GOLETA—		
Graham-Loftus Oil Co., Orella 1	*	1600

FRESNO COUNTY

KETTLEMAN HILLS — Superior Oil Co.'s 1, 18-21-17, rig.

NORTH COALINGA — Potter & Esplin's 1, 6-16-14, rig.

RAISIN CITY — Fresno - United Oil Co.'s 1, 23-15-18, sd 3960 ft.

KERN COUNTY

BAKERSFIELD—Pacific Eastern Prod. Co.'s KCL 1, dr hard gray sand 5360 ft; KCL 2, 6-30-28, dr 165 ft.

BELRIDGE—Zurich Oil Co.'s 1, 18-28-22, dr blue shale 2385 ft.

BUTTONWILLOW—McAdams et al's 1, 26-29-23, dr blue shale 3975 ft. Southern Calif. Gas Co.'s 1, 4-28-31, lcn.

COMANCHE POINT — W. W. Stabler's 1, 23-32-29, lcn.

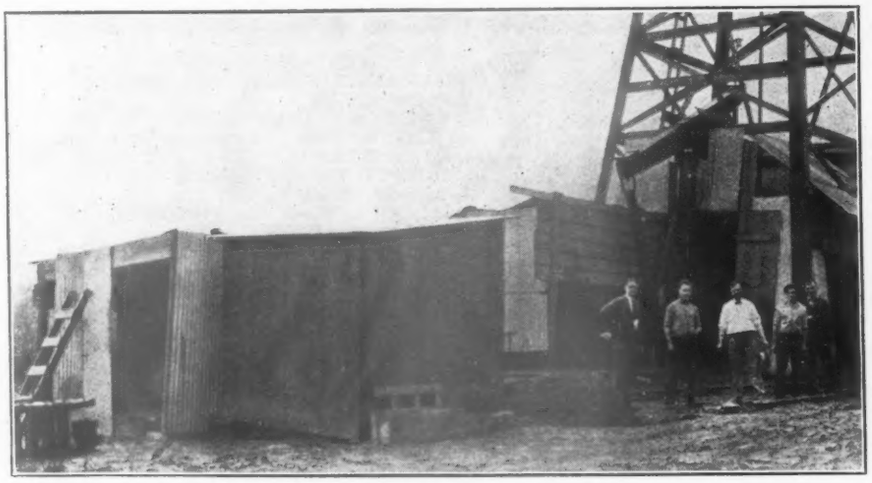
CORRAL CANYON—Shell's 1, 16-26-28, rigging rotary.

DELANO—North American Cons. Oil Co.'s 1A, 5-25-25, rigging rotary. Shell's 1, 16-26-28, rigging rotary.

DEVILS DEN—Marathon Oil Co.'s 1, 13-25-28, sd 4390 ft. Midway Northern Oil Co.'s 1, 25-25-18, sd 2460 ft.

EDISON—General Pet. Corp.'s Kerwin 1, plug 3805 ft, pumping 100 bbl oil, 50 bbl water. Midway Northern Oil Co.'s 1, 29-29-30, dr shale 2288 ft. Superior Oil Co.'s 1, 24-29-29, lcn.

Columbia Natural Gas Co. rig at Apollo, Penn. From left to right the men in the picture are: Geo. W. Brisbin, C. Neal Hines, H. J. Bartley, Supt., Riley C. Rowan, Tool Dresser, and Albert G. Geighman, Driller.



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By Purchasing Agent

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FRUITVALE — Pacific Eastern Prod. Co.'s 1, 21-29-27, 10-in csg cmt 3835 ft, td 3850 ft, good oil showings.

GOULD HILLS—Bomke & Ball's 1, 12-29-20, sr 1355 ft. California-Kentucky Oil Co.'s 1, 8-29-21, sd 1620 ft. Exeter Oil Co.'s 1, 1-29-21, dr 125 ft. Jackson & Chamberlain's 1, 36-29-20, dr 245 ft. Herbert Moore's 1, 11-29-20, sd 510 ft. H. B. Porter's 1, 36-28-20, dr shale 1246 ft. Oxena Oil Co.'s 1, 27-29-21, sd 1860 ft. Ridge Oil Co.'s 1, 13-30-21, sd 4045 ft.

MON BLUFF—Miocene Oil Co.'s 1, 34-27-28, rig. General Pet. Corp.'s 7, 21-27-28, rig. Shell's Glide 1, 3-28-28, sr 3965 ft. Signal Gasoline Co.'s 1, 27-27-28, lcn.

SEMITROPIC—Semitropic Oil Co.'s 1, 21-26-22, dr hard sand 614 ft.

SHALE HILLS—Huntington & Hawthorne's 1, 35-26-18, sd 600 ft. Nelson & Mountford's 1, 18-27-19, sd 295 ft.

SUNSET—Salegna Investment Co.'s 1, 9-11-24, dr brown shale 354 ft. Signal Gasoline Synd.'s 1, 8-11-23, pumping 65 bbl oil 2590 ft.

TEMBLOR HILLS—Firtuna Oil Co.'s 1, 28-32-13, sd 2660 ft. Jackson & Chamberlain's 36-29-20, dr blue shale 493 ft. Salegna Investment Co.'s 1, 36-29-20, plugging at 600 ft.

UPPER POSO CREEK—Bruce Frame's 1, 18-26-28, abn 2500 ft.

TEHACHAPI-MOJAVE—C. R. Asmussen's 1, 23-11-11, sd 1510 ft. Crusaders Oil Co.'s 1, 21-10-10, pumping some oil 2365 ft. John B. Harding's 1, 5-10-10, sd 1050 ft.

WASCO—Main Oil Co.'s 2, 28-27,24, plugged back to 4130 ft, td testing 8¼-in csg 4140 ft.

SANTA BARBARA COUNTY

GOLETA—Barnsdall Oil Co.'s Edwards 2, fsh for dr pipe 2060 ft. California-American Holding Co.'s 1, sd 1500 ft. Graham-Loftus Oil Co.'s Orella 1, abn 1600 ft. J. J. Rekar's La Patera 1, dr blue shale 2117 ft.

ORCUTT—G. O. Gorham's 1, 33-10-34, rig.

SANTA BARBARA—Petroleum Exploration Co.'s Modoc 1, dr hard sand 2204 ft. Channell Oil & Development Co.'s 1, 22-4-26, 4½-inch cas cmt 625 ft.

SUMMERLAND—Summerland O. Co.'s 1, 8¼-inch cas re-cmt 2900 ft, td 3030 ft.

VENTURA COUNTY

CAMARILLO—Standard's Camarillo 1, 20-2-20, sd 5720 ft.

FILLMORE—Sespe Oil Co.'s Smith 2, sd 4005 ft. Keck Investment Co.'s 1, dr hard sand 2626 ft.

HOPPER CANYON—Ruth J. Bishop's 1, 35-5-19, sd 200 ft.

MOORPARK—E. A. Parkford's Dabney-Lloyd 1, sd 4004 ft.

OXNARD—Standard's McGrath 1, lcn.

PIRU—Bolsa Chica Oil Co.'s Hidden 1, 5-4-18, bldg rig. Continental Oil Co.'s Burnham 1, 22-5-18, dr hard sand 3736 ft. Leinard Oil Co.'s 1, 4-4-18, fsh 3780 ft. Petroleum Securities Co.'s Diablo 1, 26-5-18, running 8⅝-inch cas 4140 ft.

RINCON—Montecito Producers' Cota 1, dr hard gray sand 3570 ft. Scott Petroleum Co.'s Rincon 1, fsh for bit 2470 ft.

SATICOY—E. F. Exline's 1, se¼ 33-3-21, new lcn.

SANTA PAULA—W. W. Bryant's Anlauf 2, lcn.

SIMI—Shell's Berylwood 1, dr 6375 ft; Strathern 1, dr hard sand 2268 ft.

SOUTH MOUNTAIN — Ring Pet. Corp.'s Converse 1, swabbed some oil 3950 ft.

SULPHUR MOUNTAIN—Bradford & Geis' 1, 21-4-22, bottom water 2400 ft, 500 ft oil sand.

TAPO CANYON—Continental Oil Co.'s Newhall 4, 8¼-inch cas cmt 2150 ft.

VENTURA — Associated's Dabney-Lloyd 1, 23-3-23, sdtr dr pipe 6917 ft, td 6990 ft. Frerest & Miller's 1, 11-1-20, rig. Star Petroleum Co.'s Canet 1, dr hard sand 4663 ft.

MISCELLANEOUS

COLUSA COUNTY — Continental Oil Co.'s 2, 31-18-4, dr hard sand 4293 ft.

KINGS COUNTY—Associated's Smith 1, 12-23-18, sd 2045 ft. Bolsa Chica Oil Co.'s 1, 30-23-19, sd 3500 ft. General Petroleum's 2, 22-26-18, co 6300 ft. Milham Explo. Co.'s 1, 2-22-17, dr hard sand 6450 ft. Monocline Dev. Co.'s 1, 7-21-21, sd 4310 ft. Hugh McPhail's 1, 13-24-18, co 2090 ft. South Coalinga Oil Co.'s 1, 35-24-19, dr blue shale 2956 ft.

MADERA COUNTY—Fort Wayne-Madera Synd.'s 1, 22-10-17, 2250 ft, gas showings.

SAN LUIS OBISPO COUNTY—Barneyberg Oil Co.'s 2, 25-32-14, making oil and water 2270 ft. Elberta Oil Co.'s 1, flowing and pumping 300 bbls. Miley Oil Co.'s 1, 15-29-17, sd 2540 ft. Richfield Oil Co.'s 1, 10-29-17, dr 2605 ft. Union's 1, 34-32-15, dr brown shale 490 ft. Waklin Pet. Co.'s 1, 27-27-11, dr brown shale 2587 ft.

SAN MATEO COUNTY—Shell's Cowell 1, 8-6-5, dr hard shale 5644 ft; Butts 1, 8-6-5, Moss 1, dr hard sand 476 ft.

SANTA CLARA COUNTY—Continental's Sargent 2, 31-11-4, abn 1220 ft.

SONOMA COUNTY — Shell's Murphy 1, plugged to 1585 ft, testing; Moss 1, dr 469 ft.

TULARE COUNTY—Birch Oil Co.'s 1, 13-21-26, dr 3360 ft. Ducor Drilling Co.'s 1, 29-23-27, sd 4160 ft. Federal Exploration's 1, failed to produce on test, td 5760 ft.

SOUTHERN CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
FAIRVIEW—		
Pan-American Pet. Co., Fairview 1	*	4735
PLACENTIA—		
Shell Co., Allec 1	*	5655

CLAREMONT—Claremont O&G Co.'s 1, sd 1130 ft.

COSTA MESA—Mesa Pet. Corp.'s B. & G. 1, dr hard shell 1618 ft.

DAVIDSON CITY—Calif. Well Drilling Co.'s 1, sd 7060 ft.

DOMINGUEZ — Dominguez Extension

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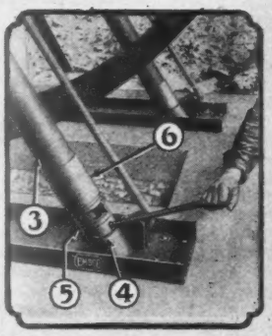

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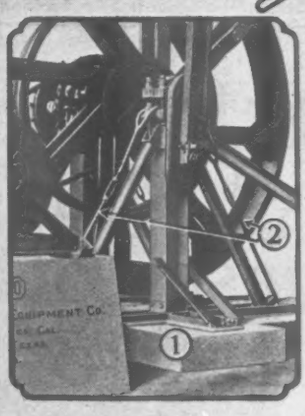

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EL SEGUNDO—Rider Oil Synd.'s 1, sd 2300 ft. Southern Calif. Drilling Co.'s Matteson 1, sd 4865 ft.

FAIRVIEW—Pan-American Pet. Co.'s Fairview 1, abn 4735 ft.

FULLERTON—Shell's Stern 1, setting 11-in csg 3520 ft.

GARDENA—Circle O&G Co.'s Pomeroy 1, sd 4130 ft.

HAWTHORNE—James O'Donnell's 1, sd 5280 ft. San Clemente Oil Co.'s 1, 6¼-in csg cmt 5495 ft, td 5765 ft. Smith Pet. Co.'s 1, sd 6215 ft.

HUNTINGTON BEACH—Calnan Pet. Corp.'s 1, will test showings found at 4575 ft. Duell Pet. Corp.'s Schuh 1, rig. Leo Stein's 1, sd 5155 ft.

INGLEWOOD—Alenson & Co.'s 1, sd 3500 ft. Hurst Oil Corp.'s Simons 1, sd 3740 ft.

LANCASTER—Otis Andrews' 1, dr 876 ft. John B. Harding's La Loma 1, 6¼-in csg cmt 825 ft, td 975 ft.

LYNWOOD—Security Pet. Corp.'s Community 1, dr shell 2716 ft.

MAYWOOD—Magnolia Pet. Synd.'s Tweedy 1, sd 2700 ft.

MONTERY PARK—Montery Park Pet. Corp.'s 1, sd 3910 ft.

MONTEBELLO—Rotary Air Drill Co.'s Germain 1, sd 1400 ft.

NEWHALL—W. W. Stabler's Castaic 1, sdtr 10-in csg 3060 ft, td 3410 ft.

ORANGE—Chas. A. Son's Pinkerton 1, sd 3620 ft.

PLACENTIA—Shell's Allec 1, abn 5655 ft.

POTRERO—Associated's Sypress 1, 4¾ in csg recmt 5283 ft, td 5408 ft.

PUENTE HILLS—Anchor Pet. Co.'s Hudson 1, sd 2270 ft.

RIVERA—Associated's Patterson 1, dr limestone and shell 4622 ft.

SAN FERNANDO—Shell's Mission 1, sd 4955 ft.

SAN JOSE HILLS—Bardeen Oil Co.'s 3, sd 2255 ft. D. & B. Oil Co.'s Amar 1, sd 4380 ft. Fuller & Gray's Sanchez 1, rig.

SEAL BEACH—George F. Getty's 1, sd 680 ft.

SUNSET—Olympic Ref. Co.'s C-1, dr 2266 ft.

SAN JUAN CAPISTRANO—O. K. Carr's Forster 2, sd 4200 ft.

TELEGRAPH CANYON—Quadra Pet. Co.'s M. J. M., sd 4210 ft.

YORBA—Standard's Yorba 1, dr gray sand 5030 ft.

WATTS—Southwest Pet. Corp.'s Ramsaur 1, sd 4300 ft.

WATSON—White - Behr Consolidated Oil Co.'s Watson 1, setting 11-in csg 4413 ft, oil showings to bottom at 4418 ft.

MISCELLANEOUS

RIVERSIDE COUNTY—Hemet Pet. Corp.'s Ward 1, dr hard sand 1942 ft. Spindletop Oil Synd.'s Salton 1, sd 3175 ft. Trabuco Oil Co.'s 1, dr hard sand 3075 ft.

SAN BERNARDINO COUNTY—Colton Terrace Oil Co.'s Colton 1, dr hard sand 1636 ft. Como Oil Co.'s Cajon 1, sd 2845 ft. Del Rosa Oil Co.'s 2, sd 915 ft. H. & P. Oil Co.'s Ranger 1, pulling 6¼-in csg, td 2140 ft. Hesperia O&G Co.'s 1A, plugging up from 2400 ft. Western Pacific Oil Co.'s No. 3, sd 3005 ft.

SAN DIEGO COUNTY—Davenport O &G Co.'s 1, dr hard sand 275 ft. Ganymede-Dunn's 1, fsh for dr pipe 3210 ft. Mills Oil Co.'s Pueblo 1, sd 670 ft. S. S. Turner's Baler 1, dr hard sand 273 ft.

WEST TEXAS
Completions

Company, Well and Location		Initial Production Bbls.	Depth
BREWSTER COUNTY—			
Cowden-Bowser et al, Jackson-Harmon 1	†		280
CROCKETT COUNTY—			
Schaffer et al, University 2	*		2635
C. E. Simmons & Co., Halff 1	†1		1290
HOWARD COUNTY—			
Lee & Neely et al, H. Hyman 1	*		1435
JONES COUNTY—			
E. P. Campbell et al, Herndon 1	*		3009
Swensondale O. Co., Canton 1	*		3398
NOLAN COUNTY—			
John Winemiller Corp., Arledge 1	*		3130
PECOS COUNTY—			
Douglas Oil Co. & Roxana, Sellman 2	*		1612
Olean Pet. Co., Harral 1	*		4030
Pandem Oil Corp. & Gibson O. Corp., River Bed 11	*		2114
Sun Oil Co. et al, Yates 1	*		1225
REAGAN COUNTY—			
Camp-Henshaw et al, Univ. 1	*		2550
TAYLOR COUNTY—			
Roeser-Pendleton, Inc., Bateman 1	*		3205

ANDREWS COUNTY—Carter-Zweifel et al's Cowden 1, sd 5000 ft. J. S. Cosden et al's Bedford-Ratliff 1, sd 4116 ft. Calvin et al's Bedford-Ratliff 1, sd 4003 ft. Deep Rock Oil Co.'s Harris 1, elev 3173 ft, top salt 1705 ft, dr 1945 ft. C. B. McKennon et al's Means 1, elev 3144 ft, dr 1715 ft.

BORDEN COUNTY—Dixon Creek Oil Co.'s Clayton-Johnson 1, dk. Marland Oil Co.'s McDavid 1, set cas 2120 ft.

BREWSTER COUNTY—Cowden-Bowser et al's Jackson-Harmon 1-A, skid rig. J. M. Hickey et al's Jackson-Harmon 1, sd 925 ft. Van McPhail et al's McIntyre 1, dr 1400 ft. Mid-Kansas O. & G. Co.'s Turney 1, sd 2685 ft. Reese-White et al's Kimball 1, sd 1305 ft. Wilcox-Anderson et al's Gage 1, sd 1855 ft.

COKE COUNTY—W. H. Brown et al's Foster 1, dr 3105 ft. Lipan Oil Co.'s Conner 1, sd 3315 ft; Rawlings 1, sd 2736 ft.

CONCHO COUNTY—The Exploration

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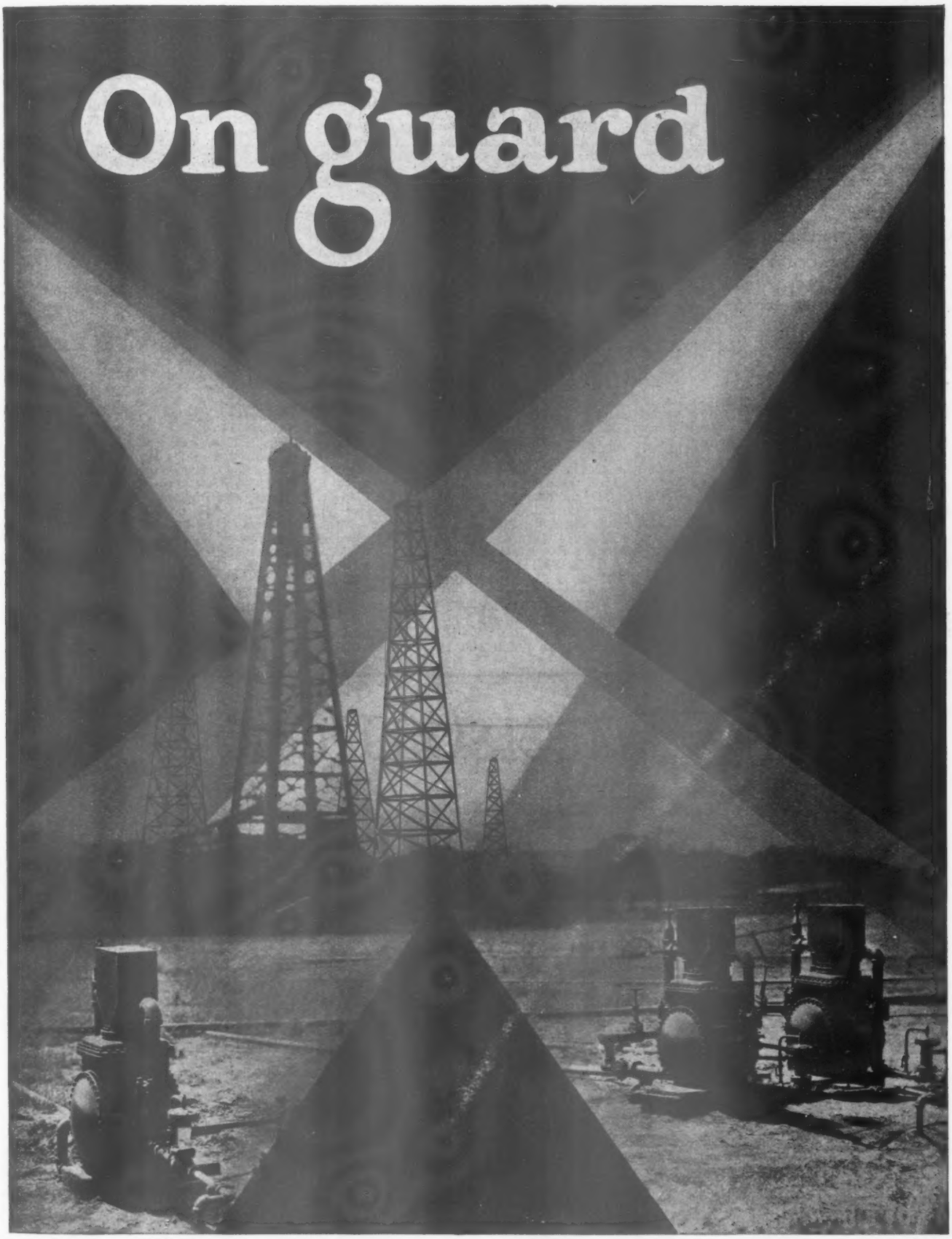

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Co.'s Hartgrove 1-A, sd 940 ft..Sartin Oil Co.'s Evridge 1, lcn.

CRANE COUNTY—Crane County Dev. Co.'s Mosley-Brookfield 1, top salt 819 ft. sd 1735 ft. Gulf Prod. Co.'s Waddell 3, elev 2724 ft, top salt 1165 ft, top brown lime 3033 ft, top gray lime 3055 ft, making one million ft gas 3049-60 ft.

CROCKETT COUNTY—J. S. Cosden et al's Paul Perner 1, fsh 635 ft. Dixie Oil Co.'s Thompson 1, lcn. W. W. Donnelly et al's Massie 1-A, dr 515 ft; Shannon 1, sd making gas 1664-80 ft; Shannon 2, materials; Todd 1, materials. Humble's Sorg 2, ur 745 ft. Osage Oil Corp. & T. T. Word's Halff 2, sd 1040 ft; Halff 3, rig. World Oil Co.'s Schneeman 1-B, sd 2560 ft.

CULBERSON COUNTY—Deep Rock Oil Co.'s T&P Fee 2, sd 1210 ft; Seay 1, dr 80 ft. Dittman Drilling Co.'s Miller 1, dr 930 ft. J. M. Hickey & Stivers' Finley 1, spd and sd. Jas. Gardner et al's Radford 1, sd 635 ft.

JEFF DAVIS COUNTY—Humble O. & R. Co.'s C. Flores 1-A, set cas 3820 ft. E. L. Smith Oil Co.'s Means 2, crooked hole 2600 ft.

ECTOR COUNTY—Shoup et al's Davis 2, lcn.

EL PASO COUNTY — Ellsworth & Haunt's McKinney-Jones 1, rig.

FISHER COUNTY—Cranfill-Reynolds & Sun Oil Co.'s Young 1, swedg cas 2880 ft. Rainey et al's Marberry 2, co 2725 ft. The Texas Co.'s Stephens 1-A, swab 180 bbls 38 gravity oil daily 3238-75 ft.

GARZA COUNTY—Emerald Oil Co.'s J. M. Boren 2, spd and sd. Gulf's Swenson 1-A, elev 2492 ft, top salt 495 ft, top lime 2075 ft, dr gray lime 3940 ft.

GLASSCOCK COUNTY— Marland & Texon's Settles 1, elev 2646 ft, top lime 2035 ft, sd hfw 3080 ft. R. R. Penn's Hughes-Johnson 1, lcn. Merriweather et al's McDowell 2, lcn.

TOM GREEN COUNTY—Fitzgerald et al's Bennett 1, cavey hole 1900 ft. R. O. Haubelt et al's Johnson 1, sd 1205 ft. Lone Eagle Oil Co.'s Sharp 1, lcn. Marland Oil Co.'s Johnson 1, sd 3500 ft; Johnson 1-A, fsh 3130 ft. World Oil Co.'s Pulliam 1-B, fsh 540 ft; March 1, lcn.

HOCKLEY COUNTY—World Oil Co.'s Ellwood 1, sd 1450 ft.

HOWARD COUNTY—Bristow & Merrick's Roberts 1, dr 690 ft. Coyle-Concord Oil Co.'s Roberts 3, dr 1625 ft; Roberts 4, dr 1010 ft. Dixie Oil Co.'s Clay 1, sd 3347 ft. F-H-E Oil Co.'s Roberts 2-B, rig; Roberts 1-C, sd 1940 ft; Roberts 1-D, sd 1890 ft. Gulf's Chalk 4, cem cas 1587 ft. Godley O. & G. Co.'s Hooks 2, fsh 1794 ft. Henshaw & Co.'s Settles 1, sd 1900 ft. Lockhart & Co.'s Roberts 1, dr 2285 ft. Magnolia's Kelly-Chalk 10, spd; Sarah-Hyman 4, dr 1610 ft; Harry Hyman 1, rig; Roberts 2, dr 2500 ft; Roberts 3, fsh 700 ft; Roberts 4, rig; Roberts 5, dr 1120 ft; Roberts 6, testing pay 1317-18 ft; Roberts-Magnolia 1, dr 365 ft. Marland Oil Co.'s Clay 1-E, td 3656 ft, plug back to 2720 ft; Richardson 1, elev 2359 ft, dr 3070 ft. Marland & Texon's Jones 1, sd 3215 ft. Marland & Miley Oil Corp.'s Read 1, spd and sd. Mays & Nixon's Flowers 1, sd 1390 ft. Merrick & Lamb's Clay 3, dr 235 ft. J. R. McCaldin & Orland's Roberts 1, dr 465 ft. Owen-Sloan Oil Co.'s Roberts 2, cem cas 2955 ft, show oil 2955-58 ft; Roberts 3 and 4, lcns. Shermerhorn Oil Co.'s Roberts 1, cem cas 2940 ft; Roberts 1-A, dr 1745 ft. Sprague Oil Co.'s Roberts 1, spd and sd. Sun Oil Co.'s Settles 1, dr 1310 ft. Vitek Oil Co.'s Clay 2, dr 1305 ft. Weekly Oil Corp.'s Roberts 1, dr 965 ft.

HUDSPETH COUNTY—Western State Oil Co.'s Gardner-Mosley 1, dr 755 ft; Moore 1, dr 980 ft.

IRION COUNTY—F. E. Webb et al's Nutt 1, spd and sd.

JONES COUNTY—R. F. Garland & Co.'s Glynn 1, fsh 2430 ft. F. E. Shaheen-Hutson & Weaver's Smith 1-A, sec. 51, blk. 18, T&P sur, swabbed 70 bbls oil 12 hours at 2498-2502 ft. Phillips Pet. Co.'s Pomroy 1, set cas 2410 ft. W. G. Stough et al's Bennett 1, sd 800 ft; Willis 1, sd 1740 ft.

KING COUNTY — Humble O. & R. Co.'s Pitchfork 1, dr 3585 ft.

LOVING COUNTY — Delaware Oil Co.'s Lockhart-Ramsey 1, dr 250 ft. Lockhart Bros. et al's Fee 1, top salt 708 ft, dr 2260 ft. Owen-Sloan Oil Co.'s Johnson 1, top salt 955 ft, dr 2580 ft.

MENARD COUNTY — May-Clark et al's Callan 1, sd 450 ft. Renfro et al's Davis 1, sd 255 ft.

MIDLAND COUNTY—Gholson et al's Moreland 1, sd 400 ft. O. H. Shoup et al's Parks 1, dk.

MITCHELL COUNTY—Boehn Drilling Co.'s H. Hyman 1, lcn. Paul Teas et al's Mills 1, sd 1100 ft.

PECOS COUNTY—Geo. H. Anderson et al's Sherbino 1, elev 2866 ft, top salt 928 ft, dr 3005 ft. Benedum-Trees et al's Corder 1, lcn. Buell-Hagan et al's Pryor 1, lcn. Day Bros. & McKnight's Yates 1, elev 2213 ft, sd 1006 ft. Bob Elmore et al's M. Holmes 2, dr 345 ft. Everett et al's J. Fields 1, spd and sd. Gibson Oil Corp.'s Russell 1, dr 1005 ft. Henshaw & Co.'s Corder 1, elev 2980 ft, top salt 1130 ft, co 2150 ft. Kershaw & Livingston's Cannon 1, dr 620 ft. Robt. Lee et al's Parker 1, rig. Michaelson & Tabot's Pecos River Bed 1, lcn. Mid-Kansas O. & G. Co.'s Pryor 1, rig. Miller & McNees' Tyrrell 1, lcn. Moody Corp.'s Corder 1, elev 2996 ft, top salt 1120 ft, dr 2820 ft. Oregon Oil Corp.'s Yates 1, dr 400 ft. Phillips Pet. Co.'s Smith-Monroe 1, dr 505 ft. B. J. Spikes et al's Brown 1, spd and sd. Transcontinental Oil Co.'s Blackstone-Slaughter 1, elev 3539 ft, dr 4565 ft; University 1, rig. Vacuum Oil Co.'s Elsinore 1, rig. World Oil Co.'s M.

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Say you saw it in The OIL WEEKLY

ANOTHER APPLICATION OF SKF BEARINGS
IN THE OIL FIELDS BY

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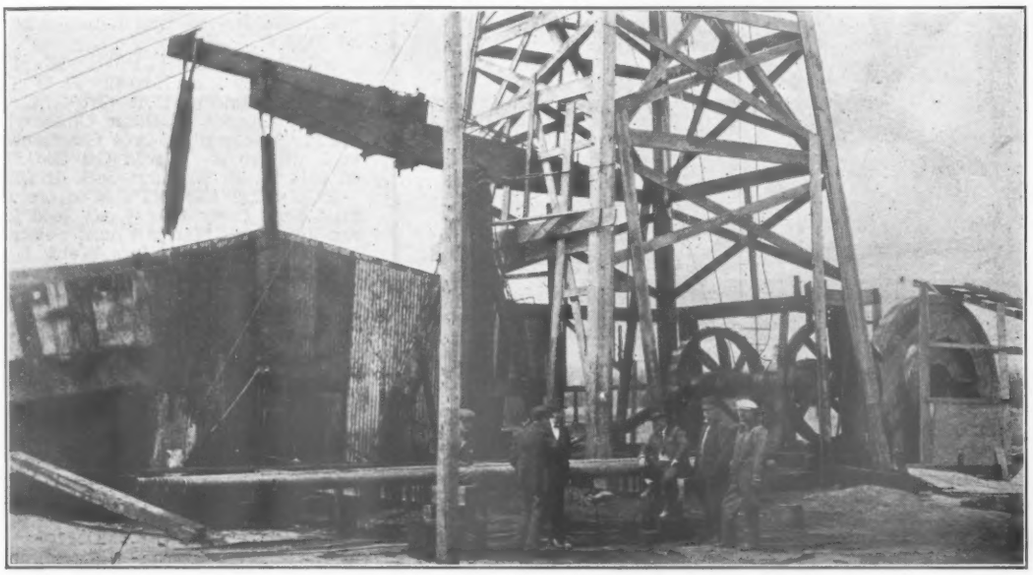

Heavy Service Demands in Oil Fields Call for Rugged SKF Bearings

FOR the big brute jobs of the oil industry where 24-hour dependability puts the stamp of approval on equipment—there you will find SKF Anti-Friction Bearings. On the oil well pump rig shown, the 25-foot bull wheel and the Pitman Pin are mounted on SKF Spherical Bearings. The countershaft is carried on SKF Ball Bearings.

"It has been running extremely well, with no rod trouble and no lost motion, either in the Motor Jack Shaft or the Bent Wheel Jack Shaft," is the company's verdict on this installation. Such performance confirms experience in other fields that the SKF Spherical Bearing carries the heaviest loads and has the longest life of service for its size, plus freedom from adjustments or constant maintenance.

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1982

Ball Bearings - Roller Bearings

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SKF

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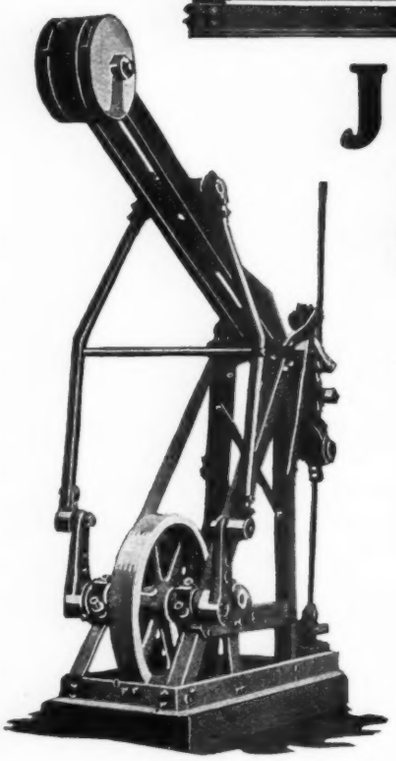

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"High Manganese" RODS
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TULSA OFFICE: 602 WRIGHT BLDG.

Cerf 1, elev 3435 ft, fsh 725 ft; Kloh 1, elev 2810 ft, dr 290 ft.

REAGAN COUNTY—Hagan & Emch's Loftin 1, rig. Moody Corp.'s Walters 1, rig. Roxana Pet. Corp.'s Sawyer 1, rig. Skelly Oil Co.'s University 1, sw cor sec. 33 blk 8, elev 2874 ft, top salt 1340 ft, top lime 3065 ft, testing 1800 ft oih in lime 3131-38 ft. Texon O. & L. Co.'s University 1-B, Group 1, dr 7340 ft. J. T. White et al's Schafner-Sterling 1, top salt 1275 ft, sd 2175 ft.

REEVES COUNTY — —Exploration Co.'s Kinney 1, dr 1510 ft. D. R. Thompson et al's Eddins 1, dr 4770 ft. Grisham-Hunter Corp.'s Rathage-Conner 1, fsh 475 ft. Vacuum Oil Co.s' Grisham-Hunter 1, dr 510 ft. World Oil Co.'s Duff 1, sd 4514 ft; B. T. Biggs 1-B, dr 1895 ft.

RUNNELS COUNTY—Empire Gas & Fuel Co.'s Gray 1, test cas 2448 ft. Gibson-Johnson's Harris 1, lcn; Serratt 1, dr 440 ft. Globe Pet. Co.'s Webb 1, dr 360 ft. Griswold et al's Boyer 1, sd 635 ft. Jones Oil Synd.'s W. Hale 1, ur cas 1690 ft. Kenwood Oil Co.'s Talley 1, sd 1720 ft. McLean et al's G. W. Taylor 1, dr 415 ft. Henry B. May et al's Schneider 1, elev 1666 ft, dr 1315 ft. Miles Oil Co.'s Lawhon 1, sd 2310 ft; Chas. Ray 1, lcn. Royal Pet. Co.'s Willingham 1, sd 865 ft. Swensondale Oil Co.'s Werner 1, elev 1803 ft, dr 2065 ft. Vacuum Oil Co. & Hill-Ladd's McMillan 2, dr 1530 ft. Watchorn Oil & Gas Co.'s King 1, testing show oil and water 2296-97 ft.

SCHLEICHER COUNTY—Thos. Gray et al's Robinson 1, dr 3320 ft.

SUTTON COUNTY—Natl Potash Co.'s Ross 1, sd 930 ft.

TAYLOR COUNTY—A. J. Brown Prod. Co.'s Henslee 1-A, elev 2010 ft, dr 2460 ft. Gilbert Johnson et al's Brown 1, fsh 1270 ft. Owen-Sloan Oil Co.'s Latimer 1, sd 2825 ft.

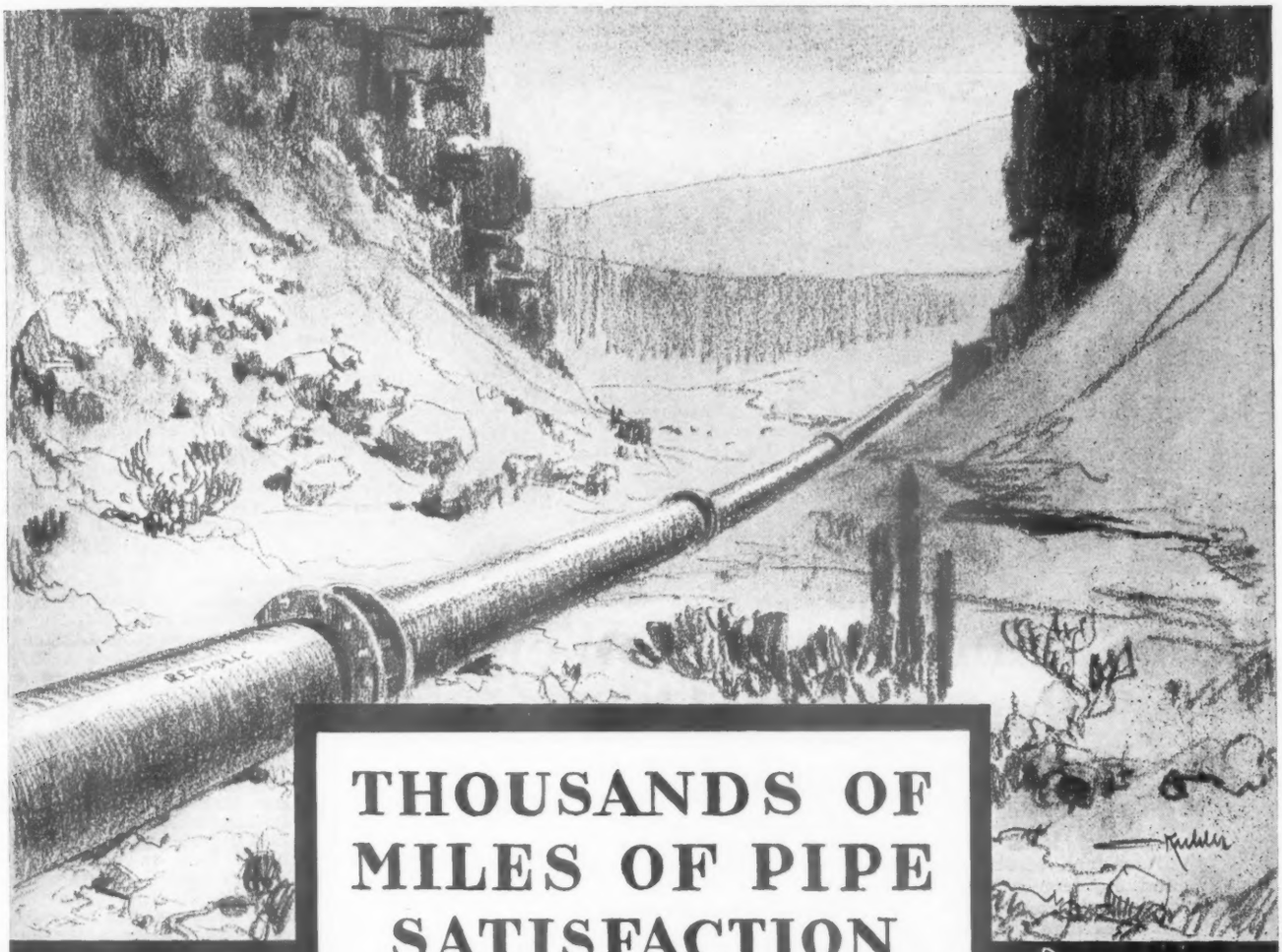
TERRELL COUNTY—Big Bend Oil Co.'s Bassett 1, lcn. Champlin Ref. Co.'s Carter 1, dr 465 ft. Deep Rock Oil Co.'s Noelke 1, dr 320 ft. Humble O. & R. Co.'s University 1, sd 895 ft. Milham Corp.'s Bassett 1, set 8¼-inch cas 1788 ft. Miller Bros. et al's Allison-Murke 1, rig.

UPTON COUNTY—Curtis-Hultz et al's Giddings 2, dr 665 ft. Southern Crude's Hobbs 1, cem cas 2955 ft. The Texas Co.'s Cordova 1, plugged back from 3201 ft to test pay.

VAL VERDE COUNTY — Magnolia's Whitehead 1, sd 5890 ft. O. O. Owens et al's Mills 1, sd 4210 ft. W. B. Thraves et al's Wilson 1, sd 905 ft.

WARD COUNTY—Selby Oil & Gas Co.'s Dooley-Rogers 1, sd 500 ft.

WINKLER COUNTY — Amerada Pet. Corp.'s Walton 1, elev 2833 ft, sd making 10 million ft gas with spray oil 2409 ft. Atlantic Oil Prod. Co.'s Grisham-Hunter 2-A, co after shot 2850-3000 ft; Grisham 3-A, fsh 2560 ft; Grisham 4-A, stdz 2472 ft; Grisham 1-C, killing gas flow 2978 ft; Grisham 1-E, gauged 1950 bbls oil 14 hours, td 2793 ft; Hendrick 1, co after shot 2825-2936 ft. Atlantic & J. D. Collett's Hendrick 1-F, elev 2884 ft, top lime 2436 ft, making oil and gas 2655-66 ft; Hendrick 2-F, rig. Arizona Mining & Eng. Co.'s Hendrick 1, spd and sd. V. T. Bolin & Co.'s Brown 1, spd and sd. Cranfill-Reynolds et al's Hendrick 1-C, top salt 1751 ft, cem cas 2408 ft; Hendrick 2-C, dk. Eastland Oil Co.'s Hendrick 1, dr by tools in pay 2710-55 ft. Gibson-Johnson's Daugherty 1, rig. Gulf Prod. Co.'s Hendrick 2, rig; Hendrick 8, dr 243 5ft; Hendrick 9, top salt 1837 ft, dr 1880 ft; Hendrick 10, fsh cas 2315 ft; Hendrick 11, 12 and 13, rigs. Humble O. & R. Co.'s Grisham 3, flowing oil at 2896-98 ft; Grisham 5, co in gas pay 2840-60 ft; Grisham 6, dr 400 ft; Grisham 7 and 8, dks; Grisham 2-B, dr 2670 ft. Independent O. & G. Co.'s Cowden 1, rig; Grisham 2, sd in pay 2815 ft; Grisham 3 and 4, lcns; Grisham 5, cem cas 2195 ft; Grisham-Hunter 6, replaced dk, td 2605 ft; Grisham 7, flowing 50 bbls per hour, dr pay 2890-2980 ft; Grisham 8, dr 2295 ft; Grisham-Vardeman 2-R, top salt 1800 ft, dr 2330 ft; Grisham-Vardeman 3-B,



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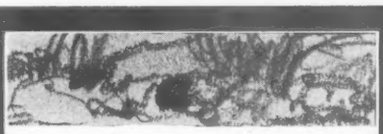

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dr 1200 ft; Grisham-Vardeman 4-B, rig. Landreth Prod. Corp. & Roxana's Hendrick 1, sd 3013 ft; Hendrick 2-A, rig; Hendrick 3-A, dr 2815 ft. Liner Drilling Co.'s Campbell 1, spd and sd. Llano Oil Co.'s Armstrong 1, lcn. Llano & Roxana's Scarborough 2, dr 555 ft. Magnolia Pet. Co.'s Hendrick 3, dr 2700 ft; Hendrick 5, dr 2610 ft; Hendrick 6, cem cas 2423 ft; Hendrick 7, spudding; Hendrick 8, lcn. Joe Maxwell & L. C. Turman's Hendrick 1, flowed 1575 bbls oil, dr pay 2879-3045 ft; Hendrick 2, sd, flowing 825 bbls oil daily 2865-2915 ft; Hendrick 3, making cut oil 2930 ft; Hendrick 4, cem cas 2559 ft; Hendrick 5, spudding; Hendrick 6, dr 200 ft; Hendrick 7, cem cas 2375 ft; Hendrick 8, cem cas 2355 ft. Murchison Oil Co. & Cranfill Bros. Oil Co.'s Grisham 2, 4 and 1-B, lcns; Grisham 3-B, cem cas 2427 ft; Grisham 4-B, swdg cas 2851 ft. Republic Prod. Co.'s Grisham 2-A, dr 1570 ft; Grisham 1-B, (Sec. 41) sd 2229 ft; Grisham 2-B, dr 2755 ft. Rovana Pet. Corp.'s Grisham 2-A, dr 2285 ft; Hendrick 2-B, cem cas 2648 ft; Hendrick 3-B, dr 2080 ft; Hendrick 2-C, plugged back from 2989 to 2943 ft; Hendrick 3-C, cem cas 2900 ft; Hendrick 4-C, stdz 2850 ft; Hendrick 5-C, show oil, dr 2841 ft; Hendrick 2-D, cem cas 2256 ft; Hendrick 3-D, dk; Grisham 1-E, rig. Sheldon & Burden's Hendrick 1, elev 2806 ft, top lime 2610 ft, sd show oil 2719-2980 ft. Southern Crude & R. A. Westbrook's Hendrick 2-A-T-88, dr 1070 ft; Hendrick 1-A-T-89, dr by bit 2687 ft; Hendrick 2-A-T-89, cem cas 2301 ft; Hendrick 3-A-T-89, cem cas 2352 ft; Hendrick 4-A-T-89, lcn; Grisham 2-B-T-88, (Sec. 4) cem cas 2659 ft; Hendrick 1-C-T-88, (Sec. 28) fsh 2880 ft; Hendrick 4-C-T-88, dr 2675 ft; Hendrick 5-C-T-88, dr 2770 ft; Hendrick 6-C-T-88, show oil dr pay 2824 ft; Hendrick 7-C-T-88, spray oil dr 2815-2985 ft; Hendrick 1-G-T-88, dk; Hendrick 1-H-T-88, dr 2460 ft; Hendrick 2-H-T-88, dr 1080 ft; Hendrick k-I-T-88, cem cas 2661 ft; E. G. Cummings 1-T-90, (Sec. 47) cem cas 2340 ft. Southern Crude & Dixie Oil Co.'s Grisham 1-A-3-T-68, shut in making 75 million ft gas 2740 ft; Grisham 2-A-3-T-68, dr 2610 ft; Grisham 3-A-3-T-68, sd 2420 ft; Hendrick 1-A-3-T-67, (Sec. 4) sd 3072 ft; Hendrick 2-A-3-T-67, sd storage 2646 ft; Hendrick 2-B-T-67, dr 1285 ft; T. G. Hendrick 1-B-3-T-67, (Sec. 33) rig; Hendrick 5-C-T-67, cem cas 2643 ft; Hendrick 2-F-T-67, dr plug 2182 ft; Hendrick 3-F-T-67, cem cas 2694 ft; Hendrick 4-F-T-67, cem cas 2567 ft. The Texas Co.'s (was Pure Oil Co.) Grisham 3-A, flowing oil 2755-59 ft; Grisham 4-A and 5-A, rigs; Grisham 1-B, sd in pay 2716 ft; Grisham 2-B, sd in pay 2808-66 ft; Grisham 3-B, sd making gas 2860 ft; Grisham 4-B, cem cas 2405 ft; Grisham 5-B, dr 2400 ft; Grisham 6-B, top lime 2388 ft, cem cas 2390 ft; Grisham 1-C, dr 1050 ft. Texon Oil & Land Co.'s Grisham 2-A, repairing rig, td 2725 ft; Grisham 3-A, dr 2260 ft; Grisham 1-B, (Sec. 45) dr 2788 ft; Grisham 2-B, flowing oil, dr pay 2810-15 ft. White Eagle O. & R. Co. et al's Leck-Collins 1, sd 3260 ft.

SOUTHWEST TEXAS

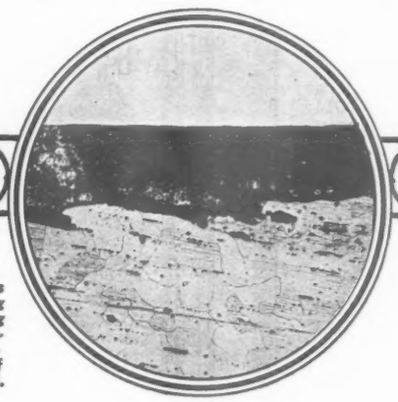
Company, Well and Location	Initial Production Bbls.	Depth
CALDWELL COUNTY—		
Dr. Bute, Thompson 1	*	1640
JIM HOG COUNTY—		
Paesano Synd., McCampbell 1, Vivoritas grant	*	3080

CALDWELL COUNTY — Dr. Bute's Boyd 1, dk; Thompson 1, abn 1640 ft, chalk. Radcliff's Briscoe 1, ne Luling, ru. Joe Bruner et al's Wilson 1, set 10-in cas 40 ft. The Texas Co.'s Roebuck 1, near McMahan, dr 2440 ft, Taylor marl. Hertz & Hinton's Parr 1, dr 160 ft.

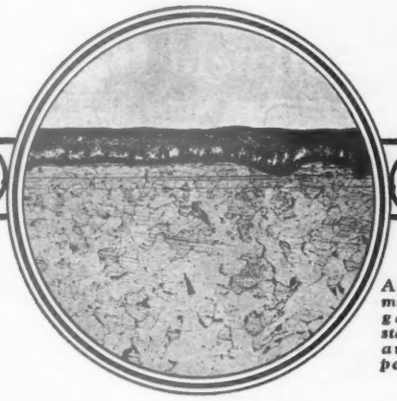
DUVAL COUNTY—Humble's Walsh 7, dr 4490 ft. R. Driscoll's Fee 9, sec. 23, dr 2520 ft; Fee 10, sec. 448, new hole, dr 1260 ft. National Oil Co.'s Ball 1, dr 280 ft. Milo E. Trussell, Trustee's Moody 1, ne part of sec. 60, testing at 2410 ft.

HIDALGO COUNTY—Queen City Oil

Eldorado Kansas, Seminole Gulf Coast and now West Texas



Note thickness of galvanizing coat on Reading Pipe and penetration—anchoring itself into the metal.



A similar photo-micrograph of galvanized steel. Thin coat and lack of penetration!

Where corrosive conditions are most severe

READING GALVANIZED TUBING

TEST strings of Reading Galvanized Genuine Wrought Iron Tubing in these fields have proven that their extra life more than pays the additional cost of galvanizing. In these fields Reading Tubing has already shown *a life of two years without a failure recorded.*

Reading galvanizing provides a greater protection against corrosion because the characteristic rough surface of the pipe will take at least twice as much coating as any other pipe material. The galvanizing actually anchors itself into and becomes an integral part of the pipe.

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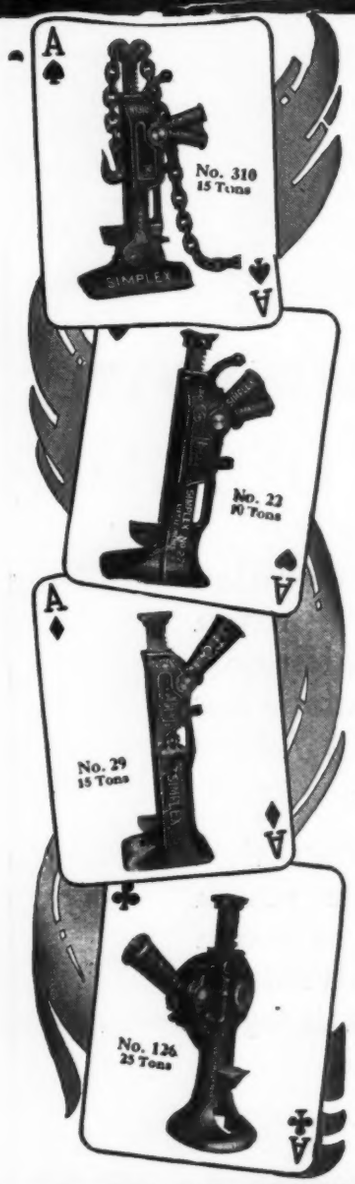
READING, PENNSYLVANIA

Houston Tulsa Fort Worth Los Angeles San Francisco

World's Largest Makers of Genuine Wrought Iron Pipe

READING TUBING
GENUINE WROUGHT IRON

"4 Jacks" that are "Aces" in every oil field



Templeton, Kenly & Co., Ltd.
Sole Mfrs.
Chicago, Illinois

Simplex Jacks

At Your Supply House

& Gas Co.'s American Land & Irrig. Co. 1, n of Mercedes, fsh 2123 ft. Dale Smith's Daskan 1, dr 3235 ft.

JIM HOGG COUNTY — Paesano Synd.'s McCampbell 1, Vivoritas grant, abn 3080 ft. Miller Shaw's Jones 1, sec. 381, dr 1280 ft, shale. Hale et al's Jones 1, dr 2545 ft.

SAN PATRICIO COUNTY — Pardee Pet. Co.'s Bell 1, 4 miles s of Mathis, dr 2740 ft, shale. Leach's Collins 2, nw of Mathis, dr 860 ft, shale.

VAL VERDE COUNTY—East Del Rio's Weatherbee 1, sd 3200 ft. Owens et al's Mills 1, sd 4210 ft. Magnolia's Whitehead 1, dr 5870 ft. Thraves et al's Wilson 1, dr 905 ft.

WEBB COUNTY—J. H. Winch's Gates 1, sec. 70, dr 670 ft, shale. Cole Pet. Co.'s 50-B, blk 7, sec. 5, Cuellar grant, dr 3314 ft; 51, blk 5, sec. 412, 2331 ft deep, prep to drill in.

TEXAS GULF COAST
Completions

Company, Well and Location	Initial Production Bbls.	Depth
AUSTIN COUNTY—		
Humble, Stravoski 1, Raccoon Bend	*	1350
Gotosky 1, Raccoon Bend	500	3280
BRAZORIA COUNTY—		
Stark et al, Hinckle 3, Hinckle Ferry	*	1800
LIBERTY COUNTY—		
Deering & Kayser, Pruett 1, N. Dayton	*	2625

AUSTIN COUNTY—Humble's Gotosky 2, Raccoon Bend, compl as 500-bbl. well at 3279 ft; Wilson 1, Raccoon Bend, dr 289 ft, shale; Stravoski 1, Raccoon Bend, abn at 1350 ft. Alexander & Lyles' Goebel 1, Raccoon Bend, dr 2440 ft, hard sand. L. H. Weadock's Ward 1, dr 730 ft, gumbo.

BRAZORIA COUNTY—Roxana's Allen Bernard 1, Allen Dome, prep to back off, no production; Allen 4, Allen Dome, testing gas pressure est at 50 million ft; Randon 1, Allen Dome, dr 4890 ft, hard shale; Bell 2, Clemens Dome, dr 5632 ft, blue shale and lime. Gulf's Perry 3, Stratton Ridge, dr around 4500 ft. Stark et al's Hinckle 3, Hinckle Ferry, abn at 1800 ft. Stanfield & Myers' McNeil 1, Hinckle Ferry, lcn.

CHAMBERS COUNTY — Pure's Old River 1, Lost Lake Dome, dk; Trinity River 1, Lost Lake Dome, dk; Little Lost Lake 1, Lost Lake Dome, dk; Lost River Lake 1, Lost Lake Dome, dk; Cut-Off Bayou 1, Lost Lake Dome, lcn. R. L. Bartlett's Fisher 1, Barbers Hill, dr 1840 ft, sandy shale.

COLORADO COUNTY — Rich Oil Corp.'s Von Rosenberg 1, 2½ miles ne of Columbus, dr sand rock at 1063 ft, had oil showings at 909 and 1052 ft. Johnson Bros.' Breeding 1, ne of Sheridan, dr 835 ft. Carl Milentz's Auerbash 1, near Glidden, dr 580 ft.

FORT BEND COUNTY—Sun Oil Co.'s Kasparek 2, Boling, no report; J. R. Farmer 5, Boling, dr 2250 ft, gumbo; J. R. Farmer 6, Boling, lcn; J. R. Farmer 7, Boling, lcn; H. R. Farmer 4, Boling, temp abn at 675 ft; H. R. Farmer 5, Boling, dr 500 ft, lime; H. R. Farmer 6, Boling, lcn; H. R. Farmer 7, Boling, lcn; E. C. Farmer 1, Boling, ru. Southern Explo. Co.'s Mullins 1, Boling, dr 3735 ft. Gulf's Beard 2-A, Long Point, dr 4205 ft; Wolf 7, Long Point, dr; Trone 6, Long Point, dr; J. M. Moore 15, Moore's Field, run. Humble's Sugarland Industries 1, Sugarland, dr 1952 ft, gumbo.

HARRIS COUNTY—Dr. P. S. Griffth's Fee 2, 12 miles n Houston, sd 3517 ft. Juanita Oil Co.'s Kitsman 1, 3 miles n of Cypress, washing to bottom. Humble-Marland's Warren 2, Hockley, dr 4069 ft, hard sand; Tex-Ex-Warren 1, Hockley, spudded.

JEFFERSON COUNTY—Deep Test Oil Co.'s McFaddin 1, 4 miles ne of Spindle Top, sd 2175 ft. Gulf's Bordages 4, Fannette, dr 4700 ft. Southern Spindle Top Oil & Dev. Co.'s Young 1, 1 mile w Nederland, sd 3350 ft. Jim McMurray's Cros-

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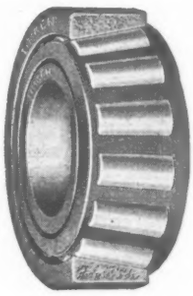

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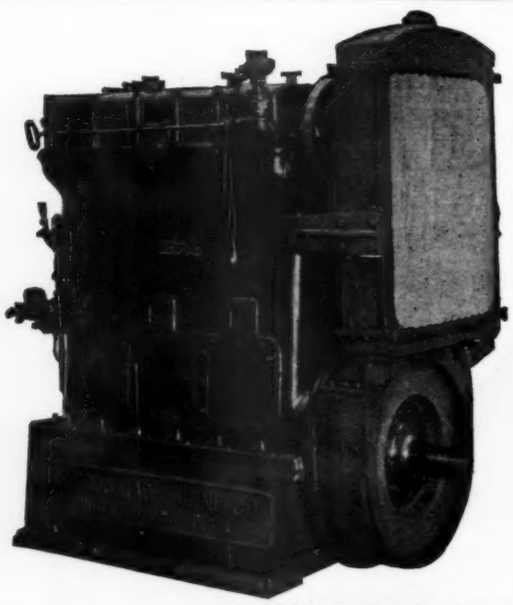
LANCASTER, OHIO



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by 2, 5 miles ne Port Arthur, dr 2080 ft, gumbo. Port Arthur Oil & Dev. Co.'s West 4, Westbury, dr 3340 ft, shale. Hindo Oil Co.'s Parker 3, ne side of Spindle Top, lcn. Traders Oil Co.'s Cissell 1, lcn.

LIBERTY COUNTY — Harrison Oil Co.'s Quintette 2, N. Dayton, temp abn. The Texas Co.'s Havard 1, Davis Hill, dr 4640 ft, hard sand; Green 1, S. Liberty, dr 35 ft; Staiti 8, S. Liberty, lcn. Yount-Lee Oil Co.'s Mitchell 2, S. Liberty, ru. Sun Oil Co.'s Mitchell 1, S. Liberty, run. Barlow et al's Minchcliff 1, 2½ miles ne Cleveland, sd 2215 ft. Deering & Kayser's Pruett 1, N. Dayton, abn 2625 ft.

MATAGORDA COUNTY—Gulf's Sanborn 4, Hawkinsville, dr; Sanborn 5, Hawkinsville, dr 700 ft. Matagorda County Dev. Co.'s Hawkins 1, Bay City, sd 1985 ft.

WHARTON COUNTY — Rich Oil Corp.'s Lee-Clipson 1, ½ mile sw of Lissie, dr asphalt at 550 ft, had oil showings at 520 and 530 ft.

SOUTH LOUISIANA

ASCENSION PARISH—Gulf's United Lands Co. 4, Sorrento Dome, dr 1635 ft.

CALCASIEU PARISH—Union Sulphur Co.'s Fee 722, Sulphur Dome, standing. Newton Drilling Co.'s Dupre 1, Lake Charles, dr 3145 ft, gumbo.

CAMERON PARISH — Pure's Sweet Lake 2, Sweet Lake, wtg on orders; Sweet Lake 4, Sweet Lake, dr 5902 ft, sand and shale; Sweet Lake 5, Sweet Lake, sd 5660 ft. La. Land & Explo. Co.'s Calcasieu Lake A-1, dr 1675 ft, sand. Calcasieu Oil Co.'s Watkins 1, Kelso Bayou, dr 3550 ft, gumbo; Watkins 2, Kelso Bayou, ru; Doiron 1, Kelso Bayou, ru. Noble et al's Ellender 1, Hackberry, dr 346 ft, gumbo. Yount-Lee Oil Co.'s School Land 7, Hackberry, dr 4020 ft, gumbo; State Land 6, Hackberry, lcn; State Land 7, Hackberry, lcn.

IBERIA PARISH—La. Land & Explo. Co.'s Vermillion Bay A-1, 3½ miles sw of Cypremont Point, dr 785 ft; Avery 1, Avery Island, dr 2600 ft. Gulf's Brussard 1, Loreauville, dr 4880 ft; State Z-3, Loreauville, dr 1235 ft. Jefferson O. & Dev. Co.'s Jeff Island Salt Co. 2, set cas 3000 ft.

IBERVILLE PARISH—Roxana's Wilbert 1, White Castle Dome, prep to dr out cement plug at 1596 ft. Union Sulphur Co.'s Wilbert 1, Bayou de Glaise Dome, dr 2100 ft, sand; Schwing 1, Bayou Blue Dome, fsh 2158 ft.

JEFF DAVIS PARISH—Estropal Oil Co.'s Le Doux 2, sd rock 2980 ft. Jno. Carrodine et al's Walsh 1, Welsh, sd 1355 ft.

LA FOURCHE PARISH—Gulf's Mrs. Stark et al 2, Thibodaux, dr.

ST. MARTIN'S PARISH — Rycade's Atchafalaya 1, fsh 3916 ft; Atchafalaya 2, dr 1280 ft.

ST. MARY PARISH—Jacob Dannenbaum's Viguerie 1, Grand Lake, lcn.

TERREBONNE PARISH — Southern Gas Co.'s South Down 4, had gas blowout at 1385 ft.

Champlin Will Build Line From Seminole

Enid, Okla.—Champlin Refining Company, refinery and headquarters here, has announced a project for building a six-inch pipe line from the Seminole fields to connect with its present carrier from Watchorn field, Pawnee County, approximately 100 miles. Completion will increase Champlin's carrier mileage to 250 between Enid and the southwestern route through Oklahoma, reaching the Garber, Okmulgee and Seminole fields and the productive areas of Logan County. Cost of the line is estimated to run in the neighborhood of $700,000.

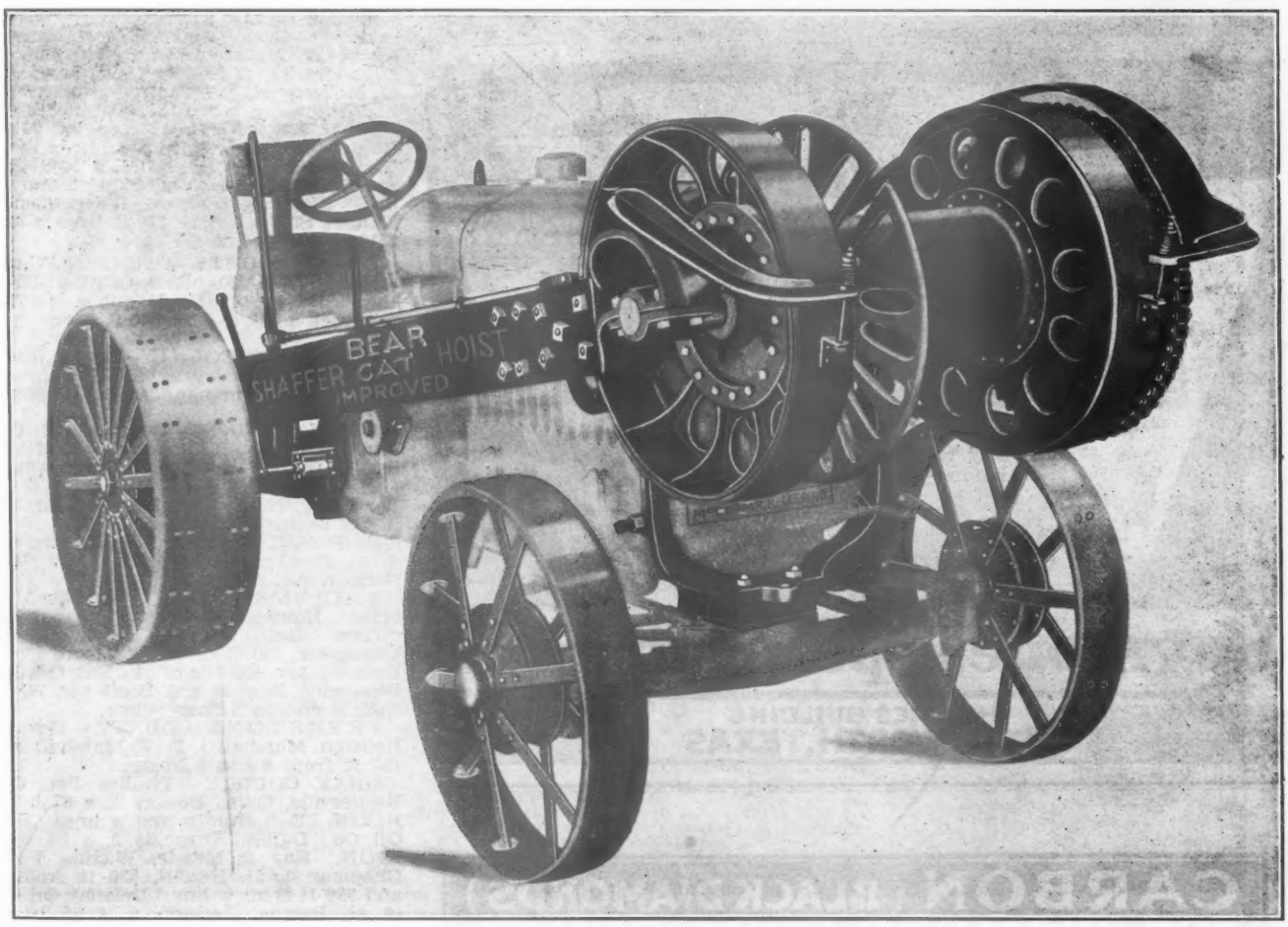
IT MEETS THE DEMAND SO DEMAND THE BEST

The oil producing industry is increasing its efficiency—cutting labor requirements, reducing operating costs, and increasing output—through the use of power equipment.

There has long been a demand for a tractor driven hoist powerful enough and flexible enough to use on every hoisting job in the oil fields.

To meet these requirements, a hoist must be fit for such uses as pulling casing, tubing and sucker rods, as well as for fast baling work. It must also be able to move easily and quickly from one job to the next.

Shaffer's BEAR CAT Hoist on the McCormick Deering Tractor meets these requirements.



Shaffer's BEAR CAT Hoist Type I F On McCormick Deering 10-20 Tractor

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6—25 H P used Gas Engines	2—50 H P used Boilers
1—25 H P used Oil Engine	60,000 ft. 3" used line pipe
1—35 H P used Oil Engine	Used Casing 4¾" to 15½" Inc.
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We buy abandoned pipe lines and oil wells. If you have any to sell, communicate with us before you dispose of them.

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PERMITS

(Continued from page 70)

olds, Cisco, Newton 1, S 623, R. Honeycutt sur, n central. Syndicated Oil Corp., Abilene, Curry 1, No. 623, E. L. Betts sur, 150 ft from n and w lines. Southern States G. & F. Co., Brownwood, Ray 2, No. 21, S. Ford sur, 225 ft from e and 260 ft from s line; Capps 2, F. Hunt sur, 270 ft from nw and 153 ft from ne line. Pandem Oil Corp., Wichita Falls, Curry B 2, No. 637, E. L. Betts sur, 150 ft from s and w lines. D. E. Gilson, Brownwood, Citizens Natl. Bank 1, No. 943, Hazlgrife sur, 1000 ft from n and 1500 ft from e line. Texas Fidelity Oil Corp., Fort Worth, Kennedy 1, S 9, BBB&C sur, 410 ft from n and 660 ft from e line. Royal Pet. Co., Brownwood, Etheridge 4, K. C. S. L. sur, 750 ft from e and 840 ft from s line.

CALLAHAN COUNTY — Young Bros. & Alexander, Fort Worth, Hatchett 2, S 30, D&D sur, 450 ft from e and 150 ft from s line. H. N. Pardee, Cisco, Snyder 1, S 137, BBB&C sur, 150 ft from s and e lines. Moutray Oil Co., Abilene, Flores 15, S 149, BBB&C sur.

COLEMAN COUNTY—Sullivan & Rebout, Coleman, Yancey 1, S 99, E. T. Ry. se corner. Shaw, Fox & Adams, Burkett, Burns 9, Wickson sur, 150 ft from n and 2829 ft from e line. Eastland Oil Co., Coleman, Morris B1, blk 14, W. Wilber sur, 330 ft from s and w lines; Morris 3, blk 22, W. Weber sur, 330 ft from n and e lines; 4, 330 ft from n and w lines. B. G. Mollenkopf, Fry Gown 1, No. 747, G. A. Wright sur, s central. Archie Shaw, Burkett, Burns 35, A. Wickson sur, 961 ft from n and 2250 ft from e line. Texas Co., Wichita Falls, Smith 1, S 1, GH&H sur, 150 ft from e and 2516 ft from s line. Roth & Faurot, Independence, Kansas, Smith 2, S 19, 330 ft from w and 2310 ft from s line.

CRANE COUNTY—Gulf, Fort Worth, McElroy 47, S 200, blk F, CCSD&RGNG sur, 660 ft e of 41. Magnolia, Dallas, Hendrick 8, blk 5, S 29, 330 ft from s and e lines.

COMANCHE COUNTY—Logan, Fain, Sipe Springs, Easley 1, W. H. Chancelor sur, 1000 ft from n and 200 ft from w line.

DUVAL COUNTY—Houston Oil Co., Houston, Welder 1, No. 233, S & M sur, 1000 ft from n and 1750 ft from w line.

ELLIS COUNTY—H. I. Vickery, Fort Worth, McKinney 1, S. Mayfield sur, 150 ft s of center of n line.

EASTLAND COUNTY—P. B. Goodwin et al, Breckenridge, Parker 1, W. Van Norman sur, se corner.

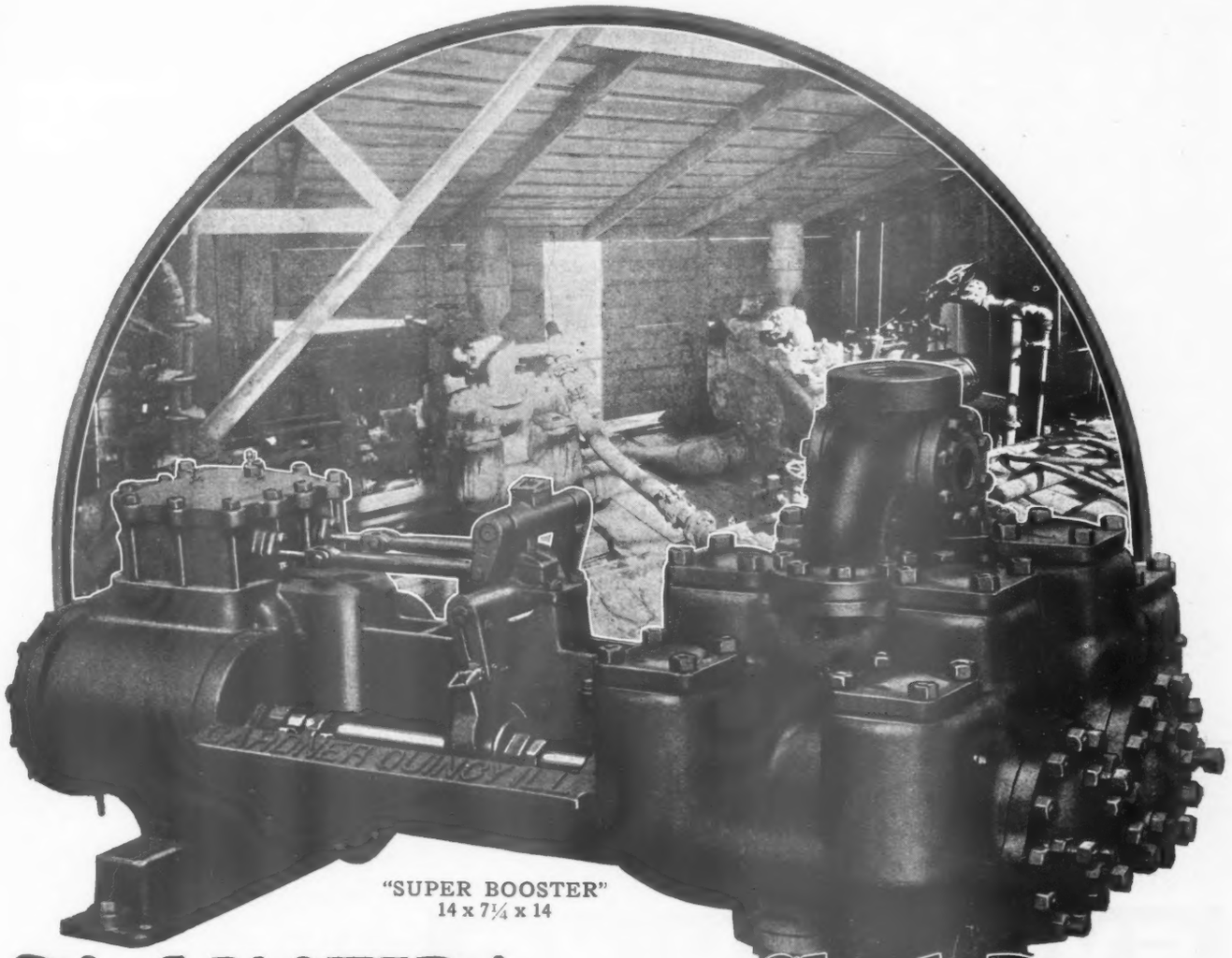
FORT BEND COUNTY — Blakely & Means, Houston, Blakely 1, E. Drew, sw corner. Gulf, Houston, Davis 45, M. Young sur, 250 ft ne of 19; Moore 15, L. Burknap sur, 400 ft s of 14. Sun Oil Co., Beaumont, Farmer 1, J. Scott sur, 745 ft from w and 50 ft from n line.

FREESTONE COUNTY — Roxana Houston, Marshall 1, D. E. Marshall sur, 150 ft from s and e lines.

GRAY COUNTY — Phillips Pet. Co., Bartlesville, Okla., Bowers 1, s 63 b b2, H&GN, 330 ft from n and w lines. Sun Oil Co., Dallas, Reynolds 2, s 83 b 3, I&GN. Ray & Massie, Wichita Falls, Chapman 1, 51, H&GN, 330 ft from n and 990 ft from w line. Delaney Oil Co. et al, Pampa, Jackson 6, s 88 b b2, H&GN, 330 ft from s and w lines. Gulf, Fort Worth, Davidson A-1, s 81 b b2, H&GN, 330 ft from n and w lines. Phillips Pet. Co., Bartlesville, Okla., Waggoner Bros., Riley 4, s 88 b b2, H&GN, 330 ft from s and e lines.

HUTCHINSON COUNTY—Phillips Pet. Co., Bartlesville, Okla., Hamilton 1, s 22 b 46 H&TC, 330 ft from s and w lines. Dixon Creek Oil Co., Amarillo, Burnett B-1, s 120 b 4, I&GN, 330 ft from n and w lines.

HARRIS COUNTY—Leonard Pet. Co., Settegast 1, s 44, J. Kopman sur, 100 ft



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International Supply Co., Stores in all Principal Mid-Continent Fields.
Norvell-Wilder Hdwe Co., Beaumont, Houston and Fort Worth.
The Republic Supply Co. of California, Stores in all Principal California Oil Fields.

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from n and e lines. Humble, Houston, Texas Exploration Co., Warren 1, T. Cogshill sur, 3595 ft from n and 1030 ft from w line. Gulf, Houston, Taylor 1, I. Junker sur, 100 ft from s and e lines. Paraffine Oil Co., Houston, Heywood 34, Knight sur, ne corner.

HARDIN COUNTY — Gulf, Houston, Hamman Oil Co. 1, J. Junker sur, 100 ft from s and e lines.

HAYES COUNTY—Estess & King, San Antonio, Sledge 1, Hinton & Jones sur, w central.

HOWARD COUNTY—Mernck & Lamb, Ardmore, Okla., Clay 3, s 126 b 29, W& NW sur, 210 ft from n and 200 ft from e line.

HARRISON COUNTY—J. R. Bahan, Shreveport, La., Furrh 6, J. Short sur, 1570 ft from e and 3802 ft from n line.

HOUSTON COUNTY — Texas Co., Houston, Mainer 1, J. Gregory sur, 1045 ft from ne and 150 ft from se line.

JEFFERSON COUNTY—Gulf, Houston, Gladys 229, J. A. Veatch sur, se corner of blk 27. Yount-Lee Oil Co., Beaumont, Gladys 54, b 57, J. A. Veatch sur, 280 ft from e and 20 ft from s line; McFaddin 55, P. Humphreys sur, 993 ft from e and 1225 ft from ne line. Jim McMurrey, Fort Worth, Crosby 2, s y3, blk 1, nw corner.

JACK COUNTY—C. M. Root, Eastland, Moreland 1, D. Yokum sur, 150 ft from n and e lines.

KING COUNTY—C. T. Bryan, Tulsa, Patton 1, s 44 b a, J. B. Rector sur, center.

KAUFMAN COUNTY—Barney Carter, Ranger, McMaster 1, J. Pyle sur, 160 ft from s and w lines.

LIMESTONE COUNTY—B. B. Hunt, Mexia, Williams 1, P. Varela sur, 150 ft from n and w lines. Transcontinental Oil Co., Mexia, Rosson, 18a b 15, P. Varela sur, 86 ft sw of 10A.

LIBERTY COUNTY—Yount-Lee Oil Co., Beaumont, Mitchell 2, M. G. White sur, 150 ft from s and 50 ft from w line.

MONTAGUE COUNTY—Roy & Carter, Wichita Falls, Heaton 1, O. Buckman sur, 150 ft from e an d450 ft from s line. Continental Oil Co., Wichita Falls, Maddox A-27, H. S. Arnold sur, 572 ft from s and e lines.

NAVARRO COUNTY—Wm. Clarkson, Jr., Corsicana, Bradley 9, R. C. S. L. sur, 150 ft from w and 1350 ft from s line. Kent-Middleton Ref. Co., Corsicana, Fulwood 1, W. T. Malone sur, 957 ft from w and 1155 ft from s line.

NACOGDOCHES COUNTY—Brashear & Silkwood, Wichita Falls, Davidson 1, J. Roberts sur, 1320 ft from s and e lines.

PANOLA COUNTY—Magnolia, Dallas, Steele 14, B. Jordan sur, 330 ft n of 11. J. H. Dickson, Tulsa, Cummings 1, J. Johnson sur, 300 ft from ne and e lines.

PECOS COUNTY—Gulf, Fort Worth, Smith 9, s 28 b 194, GC&SF sur, 558 ft n of 4. California Co., Colorado, Yates 13, s 34 b 194, GC&SF sur, 250 ft from s and e lines. Roxana, South Bend, Smith 4A, s 27, GC&SF sur, 330 ft from n and 1219 ft from e line. Gulf, Fort Worth, Smith 8, s 28 b 194, GC&SF sur, 250 ft from n and e lines.

PALO PINTO COUNTY—Texas Pacific Coal & Oil Co., Ranger, Stuart 156, s 74 b 4, T&P sur, 1600 ft s of 148.

SHACKLEFORD COUNTY—Sloan & Wolf, Fort Worth, Snyder 1, s 39 L. A. L. sur, 450 ft from e and 150 ft from s line. Continental Oil Co., Wichita Falls, Jones 1, s 72, L. A. L. sur, 300 ft s of center of n line. Sedwick Oil Co., Cisco, Macon 2A, s 69, L. A. L. sur, 50 ft ne of 2. Scott & Walker, Albany, Huskey 20, 548, TE&L sur, 300 ft s of 12. Kone Prod. Co., Cisco, Huskey 1, 547, TE&L sur, 150 ft from n and e lines. Big State Oil Corp., Dallas, Russ-Webb 4, s 27 b 11, T&P sur, 150 ft from n and e lines. Home O&G Co., Albany, Leschber 7, 536, TE&L sur, 750 ft from sw and 1698 ft from se line. T. G. Shaw, Fort Worth, Reynolds 5, s 69, L. A. L. sur, 150 ft from e and 600 ft from s line; Reynolds 6, same sur, 450 ft from e and 300 ft from s line.

STEPHENS COUNTY—Texas Fidelity Oil Corp., Fort Worth, Cook 2, s 26 b 6, T&P sur, 600 ft from n and 900 ft from w line. Schimmel Prod. Corp., Fort Worth, Tolle 1, s 458, SP Ry sur, 200 ft from w and 650 ft from s line.

WICHITA COUNTY—Original Developer's Pool, Fort Worth, Saunders 1, b 18, Specht Col. sur, 150 ft from n and 950 ft from e line. L. P. Hammond, Wichita Falls, Boyd 2, B. N. Ferguson sur, 300 ft s of 1; Waggoner Bros. 1, b 7, H. George sur, 200 ft from s and e lines.

WILBARGER COUNTY — Texas Co., Wichita Falls, Kell 1, s 18 b 16, H&TC sur, 1525 ft from n and 150 ft from w lines; Waggoner 345, s 33 b 4, H&TC sur, 205 ft from s and w lines. E. B. Lawson, Nowata, Waggoner 2, s 25 b 4, H&TC sur, 460 ft n of 1. Texas Co., Wichita Falls, Waggoner B6, s 16 b 4, H&TC sur, 205 ft from n and e lines; Waggoner B5, same sur, 205 ft from n and 1115 ft from w line; Waggoner B3, same sur, 741 ft from n and 241 ft from w line. Consolidated Oil Co., Wichita Falls, Waggoner 1, s 37 b 14, H&GN sur, 1350 ft from w and 450 ft from s line. Phillips Pet. Co., Bartlesville, Okla., Waggoner O-2, s 45 b 4, H&TC sur, 300 ft from s and e lines.

WHARTON COUNTY—Rich Oil Co., Houston, N. Lee 1, s 17, GH&H sur, 2720 ft from nw and 588 ft from ne line.

WINKLER COUNTY—Magnolia, Dallas, Hendrick 7, b b5 s 29, 330 ft from e and 1320 ft from s line. Independent O&G Co., Fort Worth, Vardeman 4, s 41 b b5, School sur, 330 ft from s and w lines; McCabe 1, s 36 b b5, School sur, 990 ft from n and w lines. Southern Crude Oil Purchasing Co., Shreveport, La., Hendricks 1, s 33 b 26, School sur, sw corner. Atlantic Oil Prod. Co., Dallas, Hendricks F2, s 40 b 26, School sur, 330 ft from n and w lines. Pure Oil Co., Mexia, Hendricks A5, s 41 b b5, School sur, 660 ft sw of 4; Hendricks 4, same sur, 660 ft sw of 3.

WEBB COUNTY — Houston Oil Co., Houston, Bruni A3, s 10 b 47, M. Arispe sur, 200 ft from nw and 314 ft from ne.

YOUNG COUNTY — P. F. Gwynn, Wichita Falls, Carter 1, 1594, TE&L sur, 150 ft from n and 466 ft from e line. Texas Pacific Coal & Oil Co., Ranger, Donnell 4, 1211, TE&L sur, 850 ft from n and w lines. E. C. Stovall, Graham, Fee 9, b 51, J. Tobin sur, 160 ft from s and e lines. C. A. Pennell, Loving, Johnson 1, E. W. Sargeant sur, 150 ft from n and w lines. Coons & Hotchkiss, Graham, Eddleman 1, I. Terry sur, 150 ft from s and w lines. Riggs & Fultz, Graham, Goldston 1, J. Meyer sur, 200 ft from n and w lines. Jacob O&G Co., Graham, Hockaday 1, E. E. Upham sur, 200 ft from nw and 675 ft from ne line. Taylor 1, W. M. Baker sur, 200 ft from n and e lines. T. G. Shaw, Fort Worth, Martin 1, R. M. Burton sur, 2566 ft from w and 2166 ft from s line.

COMPLETIONS

(Continued from page 68)

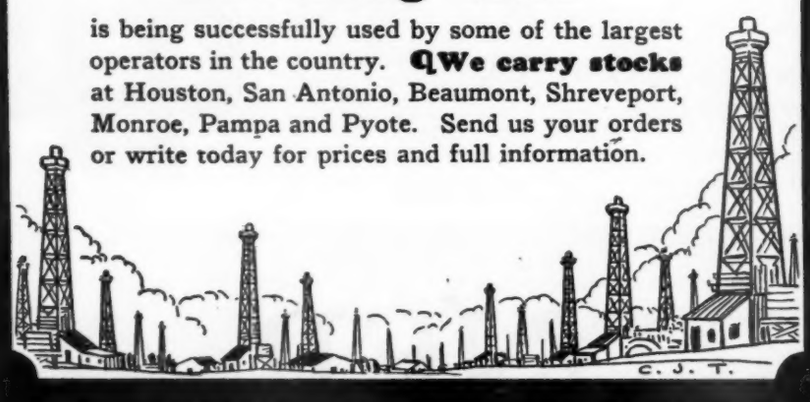
WEST TEXAS

CRANE COUNTY—		
Independent O&G Co., University 2-B	185	3093
Pecos Oil Co., University 15	150	2965
Simms Oil Co. & Atlantic, University 11-D	50	2919
PECOS COUNTY—		
The California Co., Smith 6	2160	1619
Gulf Prod. Co., M. A. Smith 6	5400	1675
M. A. Smith 7	4080	1690
Humble O&R Co., Smith 6	14,000	1446
Mid-Kansas & Transcontinental Yates 12-A	6480	1086
M. A. Smith 2	100	1245
I. G. Yates 13-A	7500	1057
I. G. Yates 23-B	100	995
I. G. Yates 25-B	1800	1040
Roxana Pet. Corp., Smith 5	450	1540
Simms Oil Co., Smith 4	24,000	1253
WINKLER COUNTY—		
Southern Crude & Dixie Oil Co., Hendrick 1-B-T-67	1050	3085
Pure Oil Co. (Texas) Grisham-Hunter 2-A	2040	2889

EVERYTHING for the OIL WELL

BAROID
Drilling Mud

is being successfully used by some of the largest operators in the country. We carry stocks at Houston, San Antonio, Beaumont, Shreveport, Monroe, Pampa and Pyote. Send us your orders or write today for prices and full information.



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PEDEN IRON & STEEL CO.
HOUSTON – SAN ANTONIO – SHREVEPORT

Yellow Strand
Rotary Drilling Lines

It's strength you need in a Rotary Line—strength combined with the ability to bend around the sheaves of the crown block without injury.

It is this valuable combination of qualities that causes Yellow Strand Rotary Lines to last longer and be so economical.

The wire for Yellow Strand is drawn to our special specifications in Europe and imported by us. No wonder Yellow Strand Rotary Lines are so good!

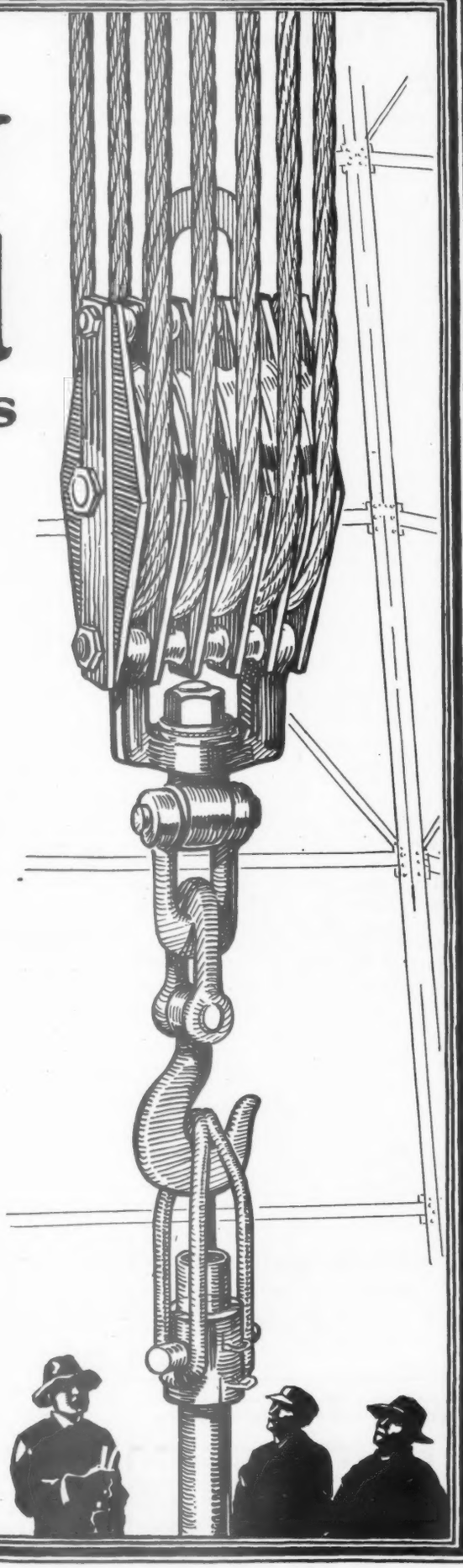
Ask for Catalog 41

Broderick & Bascom Rope Co.
St. Louis, Mo.

Branches: 68-70-72 Washington St., New York City and Seattle, Wash.

Factories: St. Louis, Mo., and Seattle, Wash.

LR551



Say you saw it in The OIL WEEKLY

Timken Facilities to Be Increased

Canton, Ohio.—An announcement has recently been made by the officials of the Timken Roller Bearing Company that an expenditure of $4,000,000 to be devoted to increasing the production facilities of the company has been authorized for the coming year. The greater part of this expansion program concerns the company's plant at Canton, where both the steel mill and the bearing manufacturing plant proper will be considerably enlarged. Among other features a new sub-station of greater kilowatt capacity will be built for supplying electric power for both the steel mill and the factory. Some idea of the magnitude of the expansion can be gained from the fact that the contracts for steel construction alone amount to $300,000 or more.

This enlargement of the company's facilities has been rendered necessary by the increase in business which marked the end of the past year, and by the expectation of still greater increase in 1928. Several factors have contributed to this increase, among them being orders from various automotive manufacturers, and the growing demand for Timken steel. Business in the various industrial fields in which the bearings have become established, has decidedly been a determining factor. The application to the roll necks of steel mills is constantly growing, as are those to various types of auxiliary equipment, such as hot saws, live rolls, etc. The number of bearings used in mine cars and similar equipment is steadily becoming more general, showing an increase over the previous year's record.

Milwaukee — Allis-Chalmers Manufacturing Company has opened a new district sales office at Phoenix, Arizona, covering Arizona, New Mexico, and the northern part of the Republic of Mexico. The office is located at 308 Heard Building. J. B. Cooper, formerly of Los Angeles, is in charge of the office. Another new branch has been opened at San Antonio, Texas, 619 Frost National Bank Building, with Earl R. Hury in charge. The San Antonio office is a branch of the district office located in Dallas. A third new branch office is being opened at Grand Rapids, Michigan, Weiss Service Building, With G. C. Culver in charge.

PHILLIP MAVERICK
PETROLEUM GEOLOGIST
Rust Bldg.
SAN ANGELO, TEXAS

THE FT. WORTH LABORATORIES

Field Gas Testing. Analysis of oil field brines, gas minerals and oil. Sell Thermometers, Hydrometers and Laboratory Glassware
F. B. Porter, B. S., Ch. E., Pres.
R. H. Fash, B. S., Vice-President
828½ Monroe St. Ft. Worth, Tex.

Buck and Stoddard, Los Angeles, have been appointed distributors of Wilson-Snyder Long Stroke slush pumps, in California. No. 18 slush pumps and a complete stock of parts will be carried at the Los Angeles warehouse. This arrangement is in keeping with the manufacturer's policy of establishing parts and service facilities before selling the pumps in any fields. Wilson-Snyder also announces that the Wilson Supply Company, Houston, has been named the Texas and Gulf Coast distributor of No. 18 slush pumps. The Wilson Supply Company, well known in the Gulf Coast fields, will carry a stock of Wilson-Snyder slush pumps and spare parts in Houston and in any other advantageous points in the field, to render prompt service to Wilson-Snyder customers.

Hughes Tool Company, Houston, has recently released a booklet devoted to Hughes Drilling Valves and Fittings. The booklet goes into lengthy details on construction of Hughes valves and fittings, dwelling especially on the character of material going into these products. Cross-section drawings are used to illustrate the construction of each item described. All the products described are made of heat treated, cast chrome nickel steel. Copies of the booklet can be had by writing the home office at Houston, or from Los Angeles, Oklahoma City or New York.

Standard Seamless Tube Company, Pittsburgh, New York, Tulsa and Los Angeles, announce a new price list covering A. P. I. sizes of seamless steel casing. Copies of this list may be secured from any branch or from the home office of the company.

Spang-Chalfant Officers

Following announcement of the recent merger of Spang-Chalfant & Company with Standard Seamless Tube Company and the purchase of controlling interest in the Oil Well Supply Company, the following officers of the concern have been named:

Henry Chalfant, Pittsburgh, chairman of the board; Gordon Fisher, president, and C. F. Cruciger, vice president in charge of sales.

Since consolidation, offices of the Standard Seamless Tube Company have been moved to the Union Bank Building, Pittsbrugh, Pennsylvania.

Oil Well Supply Company has been added to the list of distributors of the company's products. Other distributors for the newly organized company to be known as Spang-Chalfant & Company, Inc., include:

Bovaird Supply Company, Tulsa; Southwest Supply Company, Bartlesville; Superior Tube Company, Tulsa; Atlas Supply Company, Muskogee; Hercules Supply Company, Dallas; Keystone Pipe & Supply Company, Butler, Pa.; McEwen Brothers, Wellsville, N. Y.; S. R. Bowen Company, Los Angeles, and Diamond Supply Company, Charleston, W. Va.

HEYDRICK'S NEW MAPS
WEST TEXAS
County Maps
Combination Maps
Descriptions and prices on application.
HEYDRICK MAPPING COMPANY
Wichita Falls, Texas.

C. W. WEBSTER
West Texas Oil and Gas Leases
ROYALTIES
15 Years in Texas
Reference: Mercantile Agencies
Petroleum Building
FORT WORTH, TEXAS

Maurice Hirsch & Ben J. Brown
ATTORNEYS AT LAW
601-2-3 Goggan Bldg.
HOUSTON, TEXAS
Specializing in Oil Law and Land Law

PATENTS
Patents Obtained, Trade Marks, Patent Causes
JESSE R. STONE
Formerly Assistant Examiner United States Patent Office
Andrews, Streetman, Logue & Mobley
12th Floor Union N. Bk., Houston, Tex.

S. F. SHAW
Consulting Engineer
Air and Gas Lift Design
301 Terrell Road, San Antonio, Texas

JOHN F. WEINZIERL
CONSULTING GEOLOGIST
ADVISOR ON GEOPHYSICAL INSTRUMENTS
619 Petroleum Bldg., Houston, Texas

EDWIN B. HOPKINS
CONSULTING GEOLOGIST
25 Broadway
NEW YORK

PATENTS
Patents Obtained and Trade Marks and Copyrights Registered
HARDWAY & CATHEY
428-29-30 Bankers Mortgage Bldg
Phone Preston 4790 Houston, Texas

BESSEMER

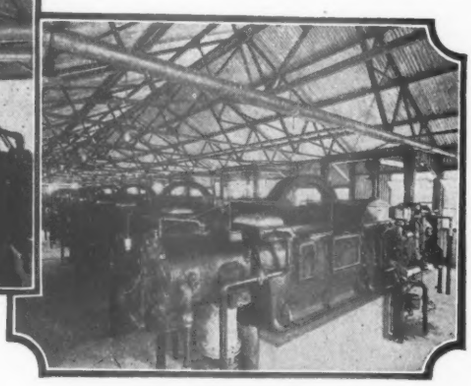
Performance

A Battery of Bessemer Type Tens in Gasoline Plant No. 13 of the Marland Oil Co., at Borger, Texas.

Thirty Bessemer Type Tens comprise the power equipment at the Carter Oil Co.'s Grisso plant, at Seminole, Okla. 18 of these units are on low stage compression work, while 12 are used as blowing machines.

The six 165 H.P. Bessemers belt driving compressors in the Gypsy Oil Co.'s Gasoline Plant at Earlsboro, Seminole County, Okla.

Looking along the Pure Oil Co.'s line of 24—175 H. P. Type Ten Bessemers in the largest Air-Gas lift plant in the Seminole—reported to be the largest in the world.



A service line of Bessemer Type Tens in the Gray County plant of the Wilcox Oil & Gas Co. of Texas, at Pampa, Texas.

WHEN you buy a Bessemer Compressor you are buying more than just a fine piece of machinery. You are buying performance insurance of the finest kind. You are buying assured serviceability; the highest mechanical and compressor efficiency you can secure; the lowest maintenance expense you have ever known; and the longest span of service that can be had at any price.

When you buy Bessemers you are investing in low-cost lifetime performance—performance of a known quality, proved by thousands of units in the service of those companies whose names loom large wherever the Oil Industry operates.

For 30 years Bessemer has been uninterruptedly supplying the power-needs of the Oil Industry.

THE BESSEMER GAS ENGINE COMPANY
62 York Street ∴ Grove City, Pa.

COMPRESSORS

The Patent Situation on Sand Testing Tools

It now seems more than probable that the United States Patent Office will grant letters patent on an application owned by Halliburton containing the following claim and several similar claims:

"A method of testing the productivity of a formation in a well containing drilling fluid, which includes lowering a sample chamber into the well through the drilling fluid to the formation to be tested, the chamber being closed against the entrance of fluid from the well during the lowering operation, sealing off the well above the formation to exclude the drilling fluid from the formation, opening the chamber to permit cognate fluid from the formation to enter the chamber, closing the chamber against the entrance of fluid from the well, releasing the seal and removing the chamber so closed to withdraw an entrapped sample of fluid from below the point at which the well was sealed off."

This advertisement is published in the interest of those operators contemplating the purchase of a device coming within the above claim.

ERLE P. HALLIBURTON COMPANY
Duncan, Oklahoma

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS

New Gate Valve

WELLMAN-SEAVER-MORGAN COMPANY

A new type of gate valve has been perfected and put on the market by the Wellman-Seaver-Morgan Company, Cleveland, Ohio. The new valve is to be known as the Wellman Supertest Valve.

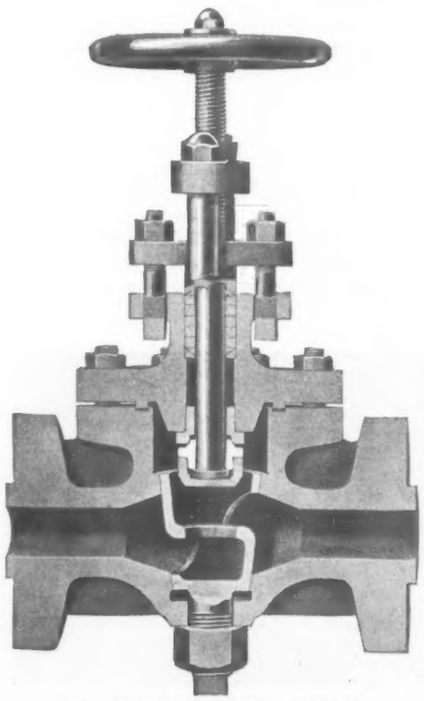
In it the valve seats are an integral part of a slightly tapered removable valve-cage, and the valve cage itself has an external take-up adjustment to compensate for the expansion or contraction and prevent leakage between the walls of the cage and the main valve body.

The valve cage may be utilized to shut off the flow through the valve while repairs or adjustments are being made. When it is desired to make repairs, it is necessary to rotate the cage a quarter turn to prevent the passage of fluid through the valve and permit the removal of the internal parts. When the valve has been repaired, the valve cage is retored to its normal position.

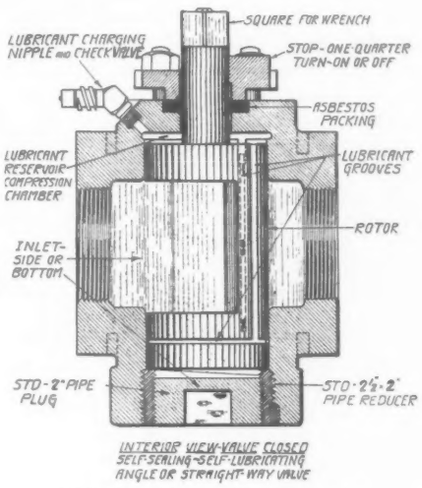
The cage has guides corresponding with slots in the wedge-type gate, which control the path of travel of the gate. On the outside, the cage is circular in cross-section, permitting it to be rotated into position or given a quarter turn to shut off the flow during repairs. The valve seats are flat, permitting the closing of the valve under high pressures.

Gate faces are removable and may be replaced when worn, or adjusted when desired.

The valve conforms to dimensions which have been approved by the American Society of Mechanical Engineers Standards Committee for steel pipe flanges and flanged fittings, while the materials conform to the requirements of the American Society for Testing Materials.



WELLMAN-SEAVER-MORGAN GLOBE VALVE



MACGREGOR ROTARY VALVE

The one-piece valve bodies, as well as the bonnets are of forged steel. Cages, gates, gate bolts, stems, bushings and gate seats are of stainless steel.

The gate valves are of the rising stem type and have a straightway flow. Packing boxes are elevated. The body and cover flanges have tongue and groove joints for soft steel corrugated gaskets.

The globe valves have forged steel bodies and bonnets with either inside screw, or outside screw and yoke, and the removable cage construction allows full capacity openings through the valve.

Full details can be received by writing the company.

MacGregor Rotary Valve

MacGREGOR AND HARCOURT

MacGregor and Harcourt, Railway Exchange Building, St. Louis, Missouri, announce a new development in valves, known as the MacGregor Rotary Valve.

The general principle of this valve is a heavy rugged shell or body, with thick walls designed to reduce to minimum the possibility of deformation.

The body is in the form of a cross with pipe threaded openings on three sides, the fourth side being closed except for the opening through which the shank of the rotor projects.

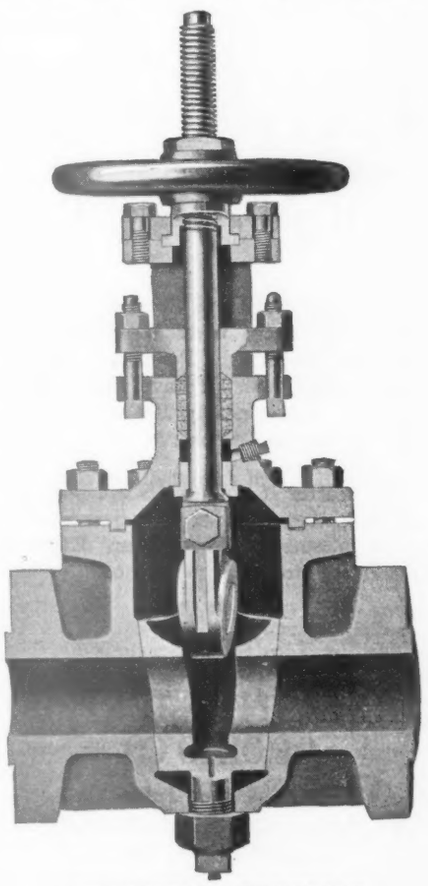
The rotor or plug is a comparatively thin walled cup-like hollow cylinder closed at the end, to which the shank is attached and open at the other end.

The mid-section of the cylinder walls is cut away as shown, to provide a waterway, leaving enough of the cylinder walls solid to seal the outlet of the body, with allowance for lap for the lubricant grooves on either side.

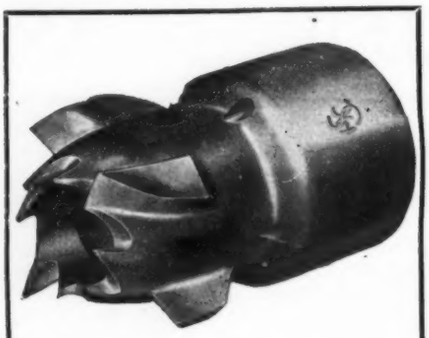
In assembly, the rotor is inserted shank end first into the cylindrically machined body. Closure of the body after the rotor has been inserted is made in the screwed type valve by first a one-stop pipe bushing and then a standard recessed pipe plug having the same threads as the inlet and outlet side of the valve. By interchanging this plug from the bottom to the side inlet, the valve can be used either for angle hook-up or for straight line work. In case of a flanged valve, closure is made with a blank flange and this flange can be moved from the bottom to the inlet side to make an angle valve arrangement.

A small opening is made through the closed end of the body for the insertion of the special, vary viscous, insoluble lubricant into the reservoir between the closed end of the rotor and the body. With this reservoir full of the special lubricant and the valve mounted in a pipe line with the solution entering from the left, a pressure is set up within the interior of the valve, no matter if the valve is in the open or closed position, tending to drive the rotor endwise toward the shank end. As there is a minimum of resistance against end-wise movement of this rotor, there will be a pressure set-up in the lubricant reservoir practically equal to the pressure in the pipe line.

As the side grooves with the rotor in either the completely open or completely closed position are in direct communication with the reservoir, the pressure then



WELLMAN-SEAVER-MORGAN GATE VALVE



Get 100% "FACTS"
Phipps Core Bit

WILL give you just that! You want 100% accurate cores, and 100% information about every formation cored. By using such cores as your unfailing guide every step you take in drilling will be safe and sure!

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Phipps Core Bit Lightning Jacks
Surber & Buchanan
Float Valve for Drill Pipe

Eastern Service at Seminole

Seminole wells are deep and costly. Operators there need EXPERTS to do their shooting. Perhaps it is for that reason that we have been called upon to shoot nearly 100 wells there during the past weeks.

No matter if your wells are deep or shallow, they deserve the services of a good shooter. So call an Eastern EXPERT for that next shot.

THE EASTERN TORPEDO OF OHIO CO.
412 Palace Bldg., Tulsa, Okla.
OWENSBORO, KY. SHELBY, MONT.
BRECKENRIDGE, TEXAS

of the lubricant in these grooves will be, for practical purposes, the same as the pressure in the pipe line. This will give a balanced condition, the lubricant pressure in the grooves balancing the fluid pressure in the pipe line. This lubricant balancing condition will prevent leakage, according to the manufacturers.

Additional information with literature will be mailed on request to the manufacturers.

Chas. D. Wagner, vice president and sales manager of the Emsco Derrick and Equipment Company, accompanied by his wife, left Los Angeles recently for St. Louis, his first stop. From St. Louis, Mr. and Mrs. Wagner will go to New York, where Mr. Wagner will make a survey of the foreign business conditions for his company. He will then return to St. Louis, and with that city and Dallas, Texas, as headquarters, will proceed to make a detailed survey of the Mid-Continent and Gulf Coast fields. Before returning to California, Mr. Wagner will visit the Houston plant of his company. He was accompanied from Los Angeles to St. Louis by C. R. McCollum, of the Houston plant.

Butler Sales School is Successful

Kansas City, Mo.—Officials and representatives of the Butler Manufacturing Company of Kansas City and Minneapolis, recently closed their fifteenth annual divisional sales school and report a very successful gathering. The salesmen's school is a yearly affair of the company and is held for the purpose of getting their men together in a business conference where ideas may be exchanged. Improved salesmanship is the object behind the school.

The school was closed with an elaborate banquet attended by 125 Butler men. The entertainment was furnished by the company's men. E. E. Norquist, president and general manager, was toastmaster. C. C. Crouch, vice president and manager of the Minneapolis office, was leader of the entertainment. A quartet consisting of Mr. Crouch, Delmer King, Earl Van Buskirk, representative of the company in the eastern part of Kansas and southeastern Nebraska, and F. A. McAllister, representative in Texas, gave several numbers.

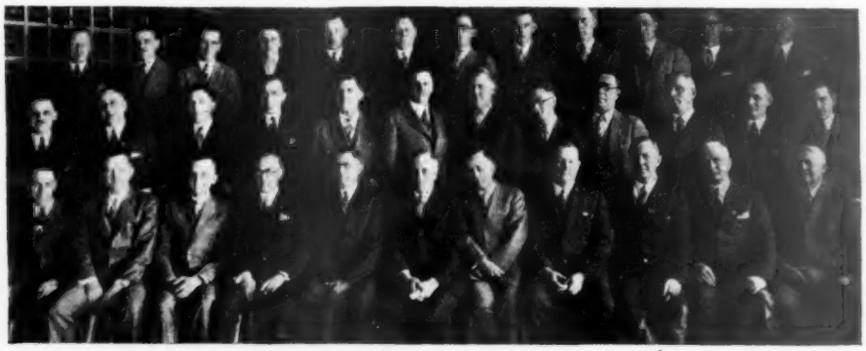
Everdur Agents Named

The Burndy Engineering Company, 10 East 43rd Street, New York, announces that it has been appointed as distributor of Everdur, by the American Brass Company. Everdur is a new alloy of copper, silicon and manganese, said to have unusual properties of strength and corrosion resistance. When rolled, it is claimed that the metal has a tensile strength approaching 100,000 pounds per square inch and a fatigue of 200,000,000 cycles at a tension of 25,000 pounds per square inch, inch, plus and minus.

The Burndy Engineering Company is preparing to stock Everdur not only in all basic forms, such as ingot, tube, sheet, bar, but also is in a position to supply castings and forgings of this material. A stock of bolts, nuts, and rivets, is maintained in New York.

Establishment of sales and service facilities for the EPCO pump in fields east of California has been made through the National Supply Companies, by the manufacturers, the Economy Pump and Oil Tool Company of Los Angeles. The pump has been in use for the past 18 months in California and has been widely adopted by California operators, according to the manufacturers. The working barrel in the EPCO pump is of the inserted type. Valves in the pump are so spaced as to prevent "gas-lock" and the standing valves are oversize, there being, for instance, a three-inch standing valve on the two and one-half-inch pump. Other features include a seamless steel barrel, the use of bronze protectors to prevent steel plungers from scoring the barrel and special ideas in valve cages and seats. Further information regarding the pump can be had from any branch of the National Supply Company.

Link-Belt Company announced recently the appointment of four vice presidents. These included George P. Torrence, with headquarters at Indianapolis, in general charge of Indianapolis operations and sales of Indianapolis plant products; George L. Morehead, Philadelphia, in charge of Eastern operations and sales; Frank B. Caldwell, in charge of the Chicago plant and sales offices tributary thereto, and W. C. Carter, in general charge of production at all plants, with headquarters at the general office of the company, 910 S. Michigan Avenue, Chicago.



REPRESENTATIVES OF BUTLER MANUFACTURING COMPANY IN ATTENDANCE AT THE RECENT SALES SCHOOL HELD BY THE COMPANY

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Boiler Tubes

Charcoal Iron
for bad water conditions—

Lapweld Steel
for good water conditions—

For long tube life.

The Tyler Tube & Pipe Co.
Washington, Pa.

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Oklahoma Stock—Harrisburg Supply Co., Tulsa, Oklahoma.

Permanence

The business world age must not be mistaken for sound judgment. As years go, this organization is young, yet it has grown large both in honor and in friendly relations. Three cardinal principles have contributed to this success: to make better products, to sell those products at an honest profit, and to accept full responsibility for our business commitments. On this basis only can a permanent business be built.

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Or
V. E. Baum, Petroleum Engr.
Murray Tool and Supply Co.
222 East Brady St.
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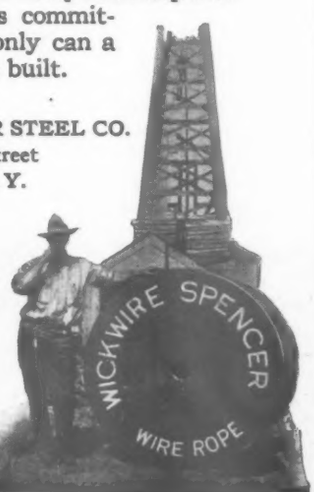

WICKWIRE SPENCER STEEL CO.

WICKWIRE SPENCER UNIFORM WIRE ROPE
tests better than A. P. I. specifications

Here is—

a guaranteed Saving *in 1928 pulling costs*

Here, Mr. Producer, is a simply stated offer that involves no obligation on your part, yet probably will mean a substantial increase in your annual profits.

As producers you know Norris Brothers' reputation. That reputation, the result of 22 years of service to the industry, is back of all statements this ad contains.

Years ago we developed a radical departure from the ordinary type of valve check, and called it the Drop and Seat. Since then thousands have been sold. Every order without exception has brought a repeat order.

The improvement of the Drop and Seat over the ball and seat lies principally in smoothness of operation, perfect balance and the protection of the seating surface from the corrosive elements. As a result, savings are reported so remarkable that they would seem exaggerated were they not the actual experiences of users whose names we will forward on request. A superintendent who once requisitioned twenty-four balls and seats a month hasn't had a single replacement since installing Drops and Seats. In a well pulled once a week Drops and Seats are operating *eight months* without change.

In view of these experiences our guarantee is a conservative one. It says simply that unless the NO-CO-RO Drop and Seat gives you twice the service of the best ball and seat you have ever used your money will be refunded.

To delay trying this remarkable improvement is simply to delay a guaranteed substantial reduction in pulling costs.

NORRIS BROTHERS, Inc.

Robinson, Illinois **Fort Worth, Texas**

"ASTCO" *Establishes Two Records In Texas Field*

Mills Bennett Production Company sets 4,273 feet of 8¼" 32 pound "ASTCO" Seamless Steel Casing in eight hours under normal working conditions.

"ASTCO" Seamless Steel Casing

The performance of the Mills Bennett crews, headed by drillers L. H. Kelly and R. B. Harper, establishes a double record:

1. The setting of 4273 feet of 8¼"casing.
2. The setting of this casing in the record time of eight hours under normal conditions.

One crew began setting the casing and worked two hours. The succeeding crew completed the job six hours later.

For speed, safety and economy specify "ASTCO" Seamless Steel products. Complete data and specifications on request.

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(Trade Mark Reg.)

SQUEAKS FROM THE BULL WHEEL

Sweet Young Thing: "George says he worships the very ground I stand on."

Rejected Suitor: "I don't blame him. A farm of that size is not to be sneezed at ."

Johnny (excitedly)—"Mr., I just seen—

Mother (reprovingly) — "Johnny! Where's your grammar?"

Johnny—"I was jus' tryin' t' tell ya. She's down to the barber's gettin' her hair bobbed."

"Do you believe that history repeats itself?" asked the waiter in a Biddeford restaurant who was serving a prosperous looking customer.

"Yes, I do," replied the customer, as he arose to leave.

"Well," said the waiter, "a gentleman who ate here yesterday gave me half a dollar for a tip."

"Let's hope he'll be in again today," replied the other.

"Sonny, why don't you get up and let one of the ladies sit down?" asked a portly man of an urchin on the street car.

"Why don't you get up an' let 'em both sit down?" was the boy's prompt comeback.

Well, here's your ring. I can't understand why you wish to break the engagement.

Well, to tell the truth, the jeweler said either to make the payments or return the ring.—Boston Globe .

I'd like to pick up a little easy money.

Well, that isn't any harder to pick up than an egg that has fallen on a cement walk.

"So you prefer cigarettes to cigars."

"Yes; it requires less nerve to ask for a cigarette."

Lady (to tramp)—Do you ever drink intoxicating liquors?

Tramp—Before I answer you, lady, I would like to know whether it's a question or an invitation.—Boston Globe.

A Scotsman rang up a doctor in a state of great agitation.

"Come at once," he said; "ma wee bairn has swallowed a saxpance."

"How old is it?" asked the doctor.

"1894."

Madam, you have a constitution of iron.

I have often wondered what made me so heavy.

The young man arrived at the party and made his way to the hostess, greeting her and apologizing for his lateness.

"Awfully glad to see you, Mr. Jones," said the hostess. "So good of you to come. But where is your brother?"

"He was unable to come. You see, we are so busy now that it was impossible for both of us to get away and so we tossed up to see which of us should come."

"How nice! And you won?"

"No," replied the young man, absently, "I lost."

Badly Bruised Boxer: "I can 'ardly see 'im, now."

His Second: "Never mind; 'it 'im from memory."

"Who was Beethoven?"

"Oh, he's the guy that writes the music for the Maxwell House Coffee hour."

Doctor (to convalescent patient who objects to the size of the bill): "But, remember, I have paid you a great number of visits."

The Scotchman: "Yes, but didna I gie the malady tae the whole neighborhood?"

Prisoner. "I'm not guilty. My wife can prove a lullaby."

Judge. "Alibi, you mean."

Prisoner. "Begging your pardon, it was a lullaby; at two o'clock on the morning in question I was walking the floor with the baby."

"They say brunettes have sweeter dispositions than blondes."

"Well' my wife's been both and I can't see any difference."

"We have a cow that gives buttermilk."

"Nonsense, it can't be done."

"Well, what can a cow give but 'er milk?"

Mrs. Grogan—It was awful! Twinty-sivin Czecko-Slovacs and one Irishman killed in the wreck!

Mrs. Callahan—"Indeed! The poor man."

"You are charged with being drunk. Have you anything to say?"

"I've never been drunk in my life, sir, and never intend to be—it always makes me feel so bad in the morning."

I have a new convertible coupe—you can convert it into a roadster in two minutes.

That's nothing. I had a convertible touring car—I converted it into a pile of junk in two seconds.

"Favorite of the Oil Fields"

UNRIVALLED for SERVICE

FENWICK-REDDAWAY MFG. CO.

Newark, N. J.

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Fireproof—

Fire has always been a great hazard in the oil country. Millions of dollars worth of equipment has been destroyed by this great enemy of the driller. It would only seem logical therefore to use as much all-steel equipment as possible. O'Brien Steel Derricks are as fire-proof as any derrick can be. This one characteristic alone should be reason enough to use O'Brien Derricks. The O'Brien shown here stood unharmed after fire had destroyed everything else at this well.

Why Experiment? O'Brien Derricks will drill your wells and pull your casing.

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Oil Well Valve Cups

"LUBRIKUPS" are manufactured in three grades, Hard, Soft and Special Soft. Each grade has labels with words Hard, Soft and Special Soft printed thereon.

"LUBRIKUPS" Hard used in deep wells where pressure is sufficient to expand.

"LUBRIKUPS" Soft for wells of depth up to 2000 feet where cut oil exists.

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LUBRIKUP COMPANY, Inc.

WILLIAMSPORT, PA., U. S. A.

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